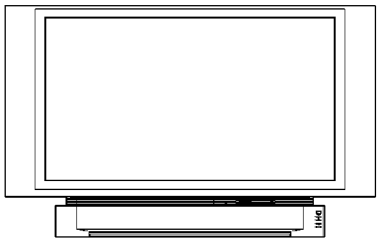
ORDER NO. MKE0311855C1

B2

Service Manual

Multi Media Display

PT-50LCX63 / PT-60LCX63



PbF
Solder Lead free

SPECIFICATIONS

ITEM	SPECIFICATION	1	2
LCD panels	0.9" Poly silicon TFT LCD Panel X 3 RGB shutter method, using Translucent TN crystal panels	○	○
Drive method	Active Matrix 16:9 Aspect Ratio panels, TFT (Thin Film Transistor)	○	○
No. of pixels	921,600 (1,280 X 720) stripe pixels X 3 panels (16:9)	○	○
HID Lamp	100 W HID (High Intensity Discharged) Lamp	○	○
Display	50 inch, 16 : 9 aspect ratio 60 inch, 16 : 9 aspect ratio	○ –	– ○
Video input signal	1 Vp-p, sync negative. 75 Ω terminated	○	○
S-Video input signal	Y (luminance signal): 1 Vp-p, sync negative, 75 Ω terminated C (chrominance signal): burst 0.286 Vp-p, 75 Ω terminated	○	○
RGB input signal	Video signal: RGB Analog (0.7 Vp-p, 1.0 Vp-p with sync on green. 75 Ω) Sync signal: H/V separate, H/V composite H-Frequency: 31.47 kHz-68.68 kHz (TTL Level) V-Frequency: 56.25 Hz-85.08 Hz (TTL Level)	○	○
Component Video input signal	Y: 1.0 Vp-p, with sync, 75 Ω P_B, P_R: ±0.35 Vp-p, 75 Ω YP_BP_R Signal: 480 i H-Frequency 15.73 kHz V-Frequency 29.97 Hz 480 p H-Frequency 31.47 kHz V-Frequency 59.94 Hz 720 p H-Frequency 45.00 kHz V-Frequency 60.00 Hz 1080 i H-Frequency 33.75 kHz V-Frequency 30.00 Hz	○	○
Audio input signal	0.5 Vrms	○	○
Audio out	0.5 Vrms	○	○
Tuner	ATSC digital tuner with digital cable module	○	○
Channel Capability (ATSC/NTSC)	VHF/UHF 2-69 Cable 1-135	○	○

ITEM	SPECIFICATION	1	2
Connectors	S-Video Input: Mini DIN 4-pin Video Input: RCA Pin Jack RGB Input: D-Sub mini 15-pin Component Video Input: 3 RCA Pin Jacks HDMI input: HDMI type A Connector Audio Input: M3 Stereo mini Pin Jack 2 RCA Pin Jacks (L-R) S-Video Output: Mini DIN 4-pin Video Output: RCA Pin Jack Audio Output: M3 Stereo mini Pin Jack 2 RCA Pin Jack (L-R)	○	○
Speaker	2 Speakers 30 W [15 W + 15 W] (10 % THD)	○	○
Card Slot	SD Card slot: SD Card, Multi Media Card PC Card slot: Compact Flash, Smart Media. Memory Stic, xD Picture Card	○	○
Power Source	AC 120 V, 60 Hz	○	○
Power Consumption	Power ON: Approx. 240 W (When audio is at maximum) Power OFF: Approx. 20 W (When cooling fan is stopped)	○	○
Operating Condition	Temperature: 0 °C~35 °C (32 °F~95 °F) Humidity: 20 %~80 % (non-condensing)	○	○
Weight	35.4 kg (84.7 lbs.) 46.8 kg (103.2 lbs.)	○ –	– ○
Dimensions (W x H x D)	1,416 mm x 897 mm x 389 mm (55-12/16 inch x 35-5/16 inch x 15-5/16 inch) 1,637 mm x 1,050 mm x 459 mm (64-7/16 inch x 41-6/16 inch x 18-1/16 inch)	○ –	– ○
Solder	This model uses lead free solder (PbF).	○	○

Weight and dimensions shown are approximate.
Designs and specifications are subject to change without notice.

Panasonic®

1. SAFETY PRECAUSIONS

1.1. GENERAL GUIDELINES

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC Plug before disassembling this unit.
3. It is advisable to use an isolation transformer in the AC supply before servicing.
4. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
5. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shield, and isolation R-C combinations etc. are properly installed.
6. After servicing, be sure to restore the wires, leads, insulation barriers, shields, etc.
7. After servicing, make the leakage current checks to prevent the customer from being exposed to shock hazards.

Caution:

Use a separate Isolation Transformer for this unit when servicing.

1.2. LEAKAGE CURRENT COLD CHECK

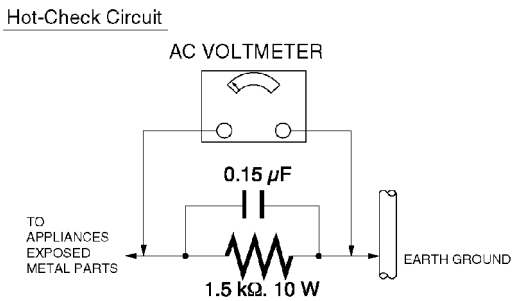
1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. For physically operated power switches, turn power on. Otherwise skip step 2.
3. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the

receiver, such as screwheads, connectors, etc. When the exposed metallic part has a return path to the chassis, the readingshouldbebetween 1 M Ω and 12 M Ω . When the exposed metal does not have a return path to the chassis, the reading must be infinity.

1.3. LEAKAGE CURRENT HOT CHECK

1. **Plug the AC cord directly into the AC outlet.**
   Do not use a isolation transformer for this check.
2. **Connect a 1.5 k Ω , 10 W resistor, in parallel with a 0.15 μ F capacitor, between each exposed metallic part on the set and a good earth ground, as shown in Figure 1.**
3. **Use an AC voltmeter, with 1 k Ω /V or more sensitivity, to measure the potential across the resistor.**
4. **Check each exposed metallic part, and measure the voltage at each point.**
5. **Reverse the AC plug in the AC outlet and repeat each of the above measurements.**
6. **The potential at any point should not exceed 0.75 V RMS.**
   A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks. Leakage current must not exceed 1/2 mA. In case a measurement is outside of the limits specified, there is a possibility of shock hazard, and thereceivershouldbe repaired and rechecked before it is returned to the customer.

Figure 1

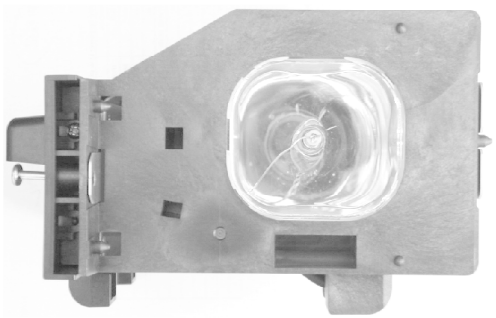


1.4. UV-PRECAUTION

1. **Be sure to disconnect the AC Plug when replacing the lamp.**

2. **Since the lamp reaches a very high temperature during its operation, wait until it has completely cooled off when replacing the Lamp Unit.**
3. **The lamp emits small amounts of UV-Radiation.**
   Avoid direct-eye contact by covering the Lamp and wearing the UV cut protective glass.
4. **The high pressure lamp involves a risk of explosion.**

Figure 2



This product has a High Intensity Discharge (HID) lamp that contains a small amount of mercury. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <http://www.eiae.org.>

2. PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistorsandsemiconductor"chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. **Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap,whichshouldbe removed for potential shock reasons prior to applying power to the unit under test.**
2. **After removing an electrical assembly equipped with ES devices,**

place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

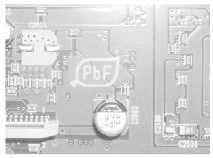
3. **Use only a grounded-tip soldering iron to solder or unsolder ES devices.**
4. **Use only an antistatic solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate electrical charge sufficient to damage ES devices.**
5. **Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.**
6. **Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparableconductivematerial).**
7. **Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.**
   CAUTION :
   Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. **Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD)sufficienttodamage an ES device).**

3. ABOUT LEAD FREE SOLDER (PbF)

Distinction of PbF PCB:

PCBs (manufactured) using lead free solder will have a PbF printing on the PCB.
(Please refer to figures.)

Printed case 1



Printed case 2

CAUTION:

- Pb free solder has a higher melting point than standard solder;
  Typically the melting point is 50 °F - 70 °F (30 °C - 40 °C) higher.
  Please use a soldering iron with temperature control and adjust it to 700 °F±20 °F (370 °C± 10 °C).
  In case of using high temperature soldering iron, please be carefull not to heat too long.
- Pb free solder will tend to splash when heated too high (about 1100 °F/600 °C).
- All products with the printed circuit board with PbF stamp or printing must be serviced with lead free solder.
  When soldering or unsoldering, completely remove all of the solder from the pins or solder area,
  and be sure to heat the soldering points with the lead free solder until it melts sufficiently.

Recommendations

Recommended lead free solder composition is Sn96.5 Ag3.0 Cu0.5.

4. SERVICE NOTES

5. DISASSEMBLY / ASSEMBLY PROCEDURES

5.1. CABINET SECTION

6. TROUBLESHOOTING HINTS FOR BLOCK LEVEL REPAIR

7. BLOCK DIAGRAMS

8. SCHEMATIC DIAGRAMS

8.1. SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES

8.2. INTERCONNECTION SCHEMATIC DIAGRAM

8.3. FRONT JACK SCHEMATIC DIAGRAM

8.4. NETWORK / THERMISTOR 1 / THERMISTOR 2 / OPERATION / COVER SWITCH SCHEMATIC DIAGRAMS

8.5. AUDIO AMP SCHEMATIC DIAGRAM

9. CIRCUIT BOARD LAYOUT

9.1. FRONT JACK C.B.A. / OPERATION C.B.A. / NETWORK C.B.A.

9.2. AUDIO AMP C.B.A. / THERMISTOR 1 C.B.A. / THERMISTOR 2 C.B.A. / COVER SWITCH C.B.A.

10. EXPLODED VIEWS

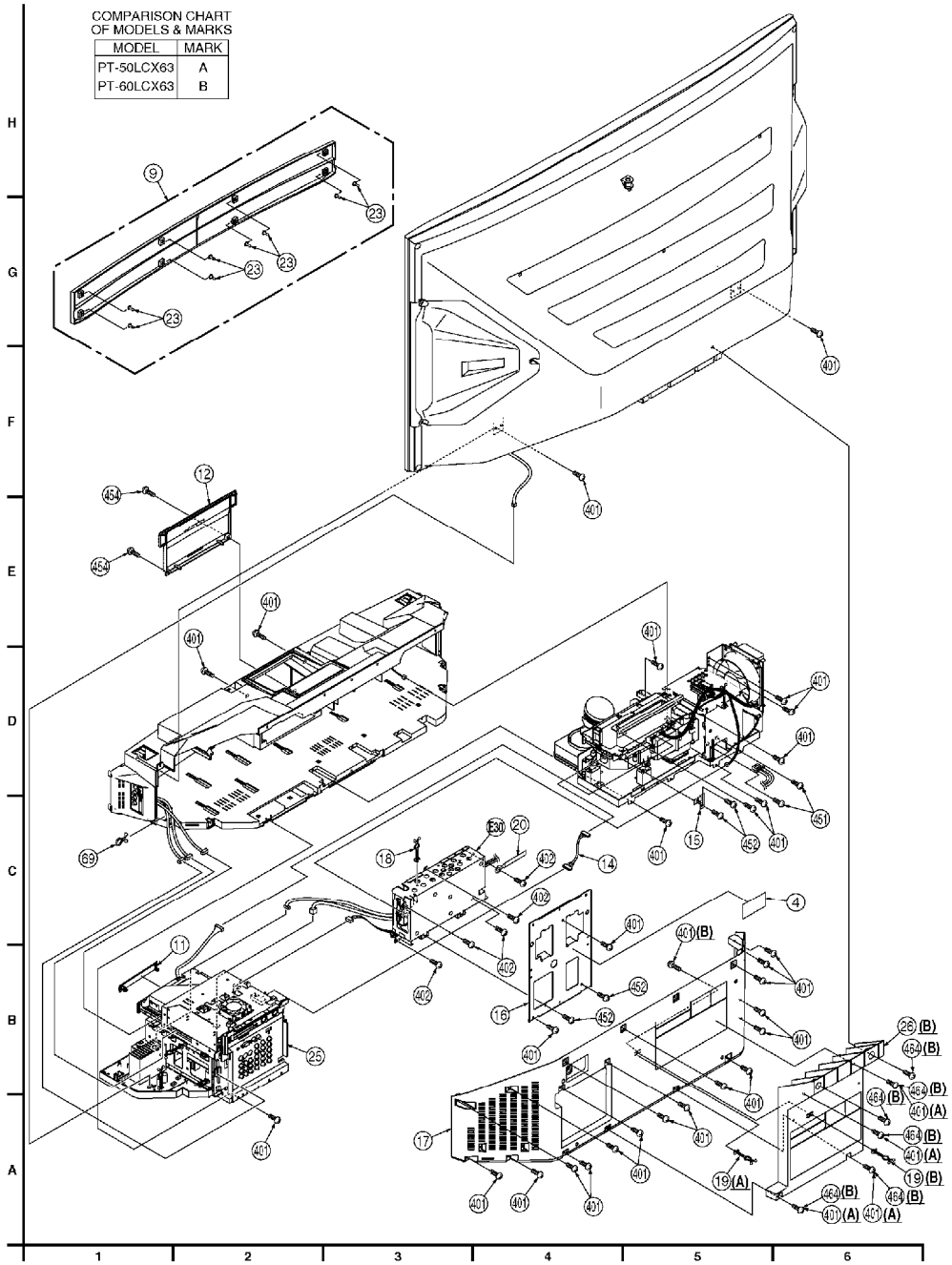
10.1. MAIN PARTS SECTION

❶ MAIN PARTS SECTION

Note: Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

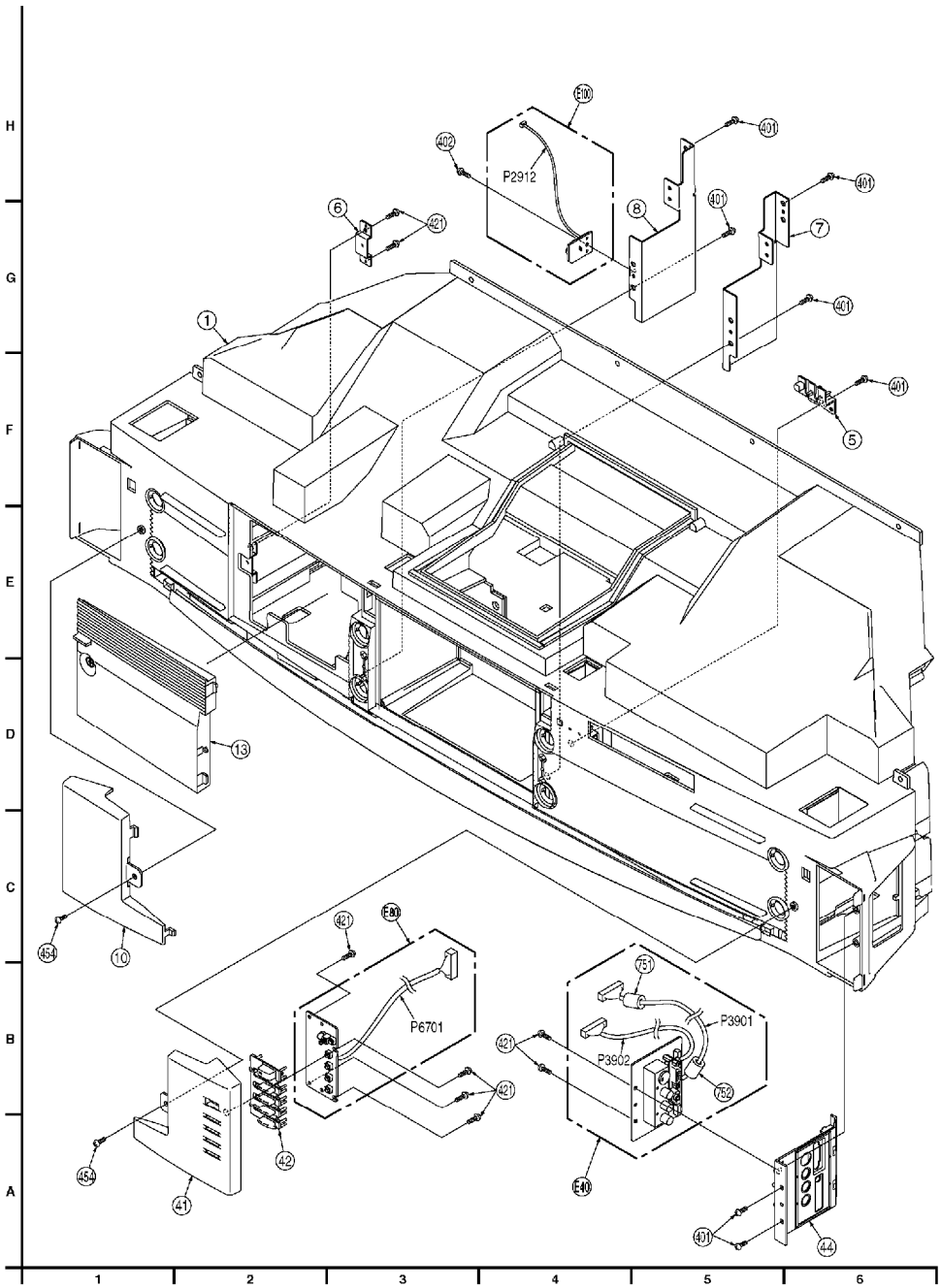
COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PT-50LCX63	A
PT-60LCX63	B



10.2. FRONT AND BASE SECTION

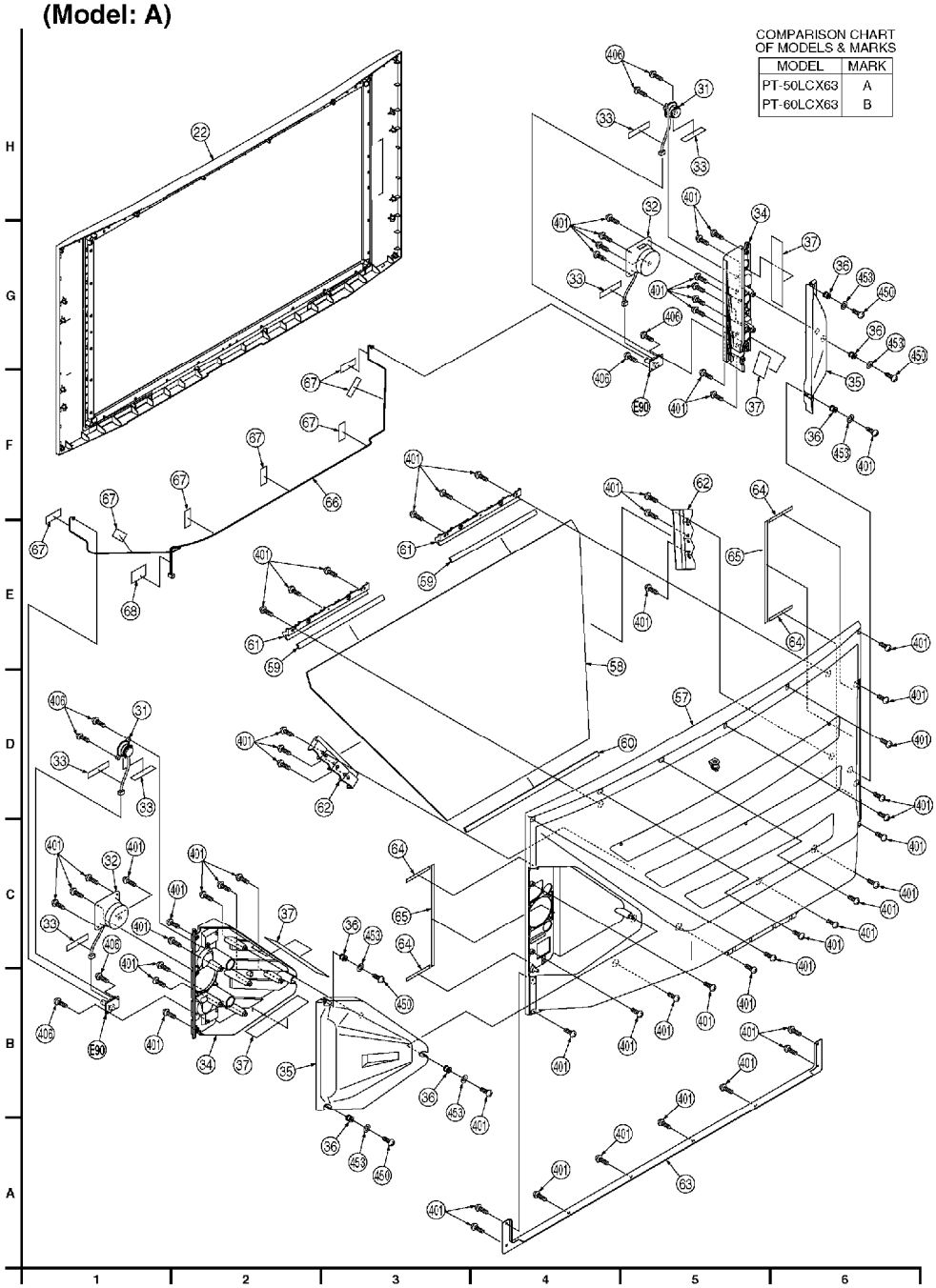
❷ FRONT AND BASE SECTION



10.3. DISPLAY SECTION

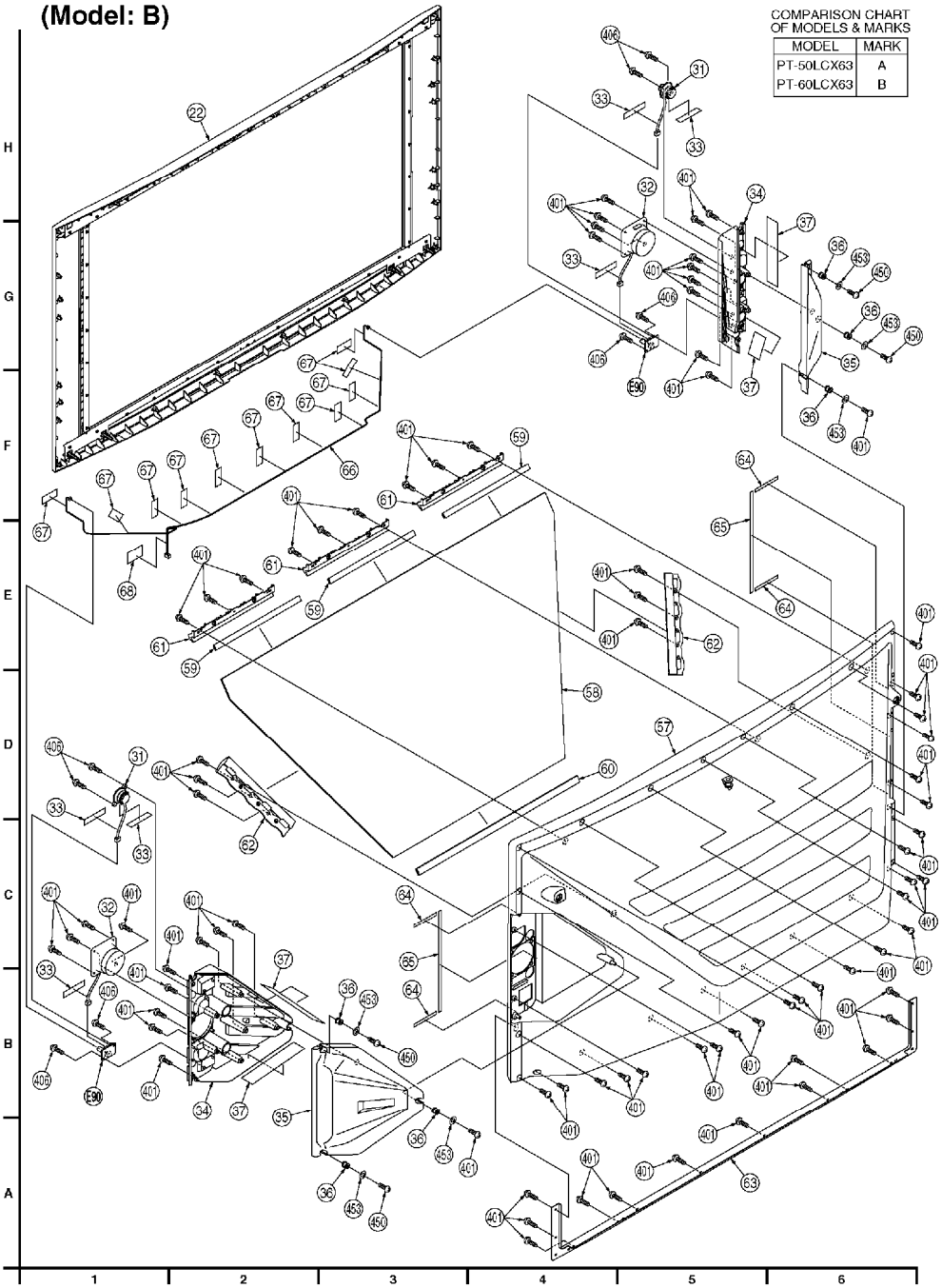
(Model: A)

❸ 50 INCH DISPLAY SECTION
(Model: A)



(Model: B)

❸ 60 INCH DISPLAY SECTION
(Model: B)



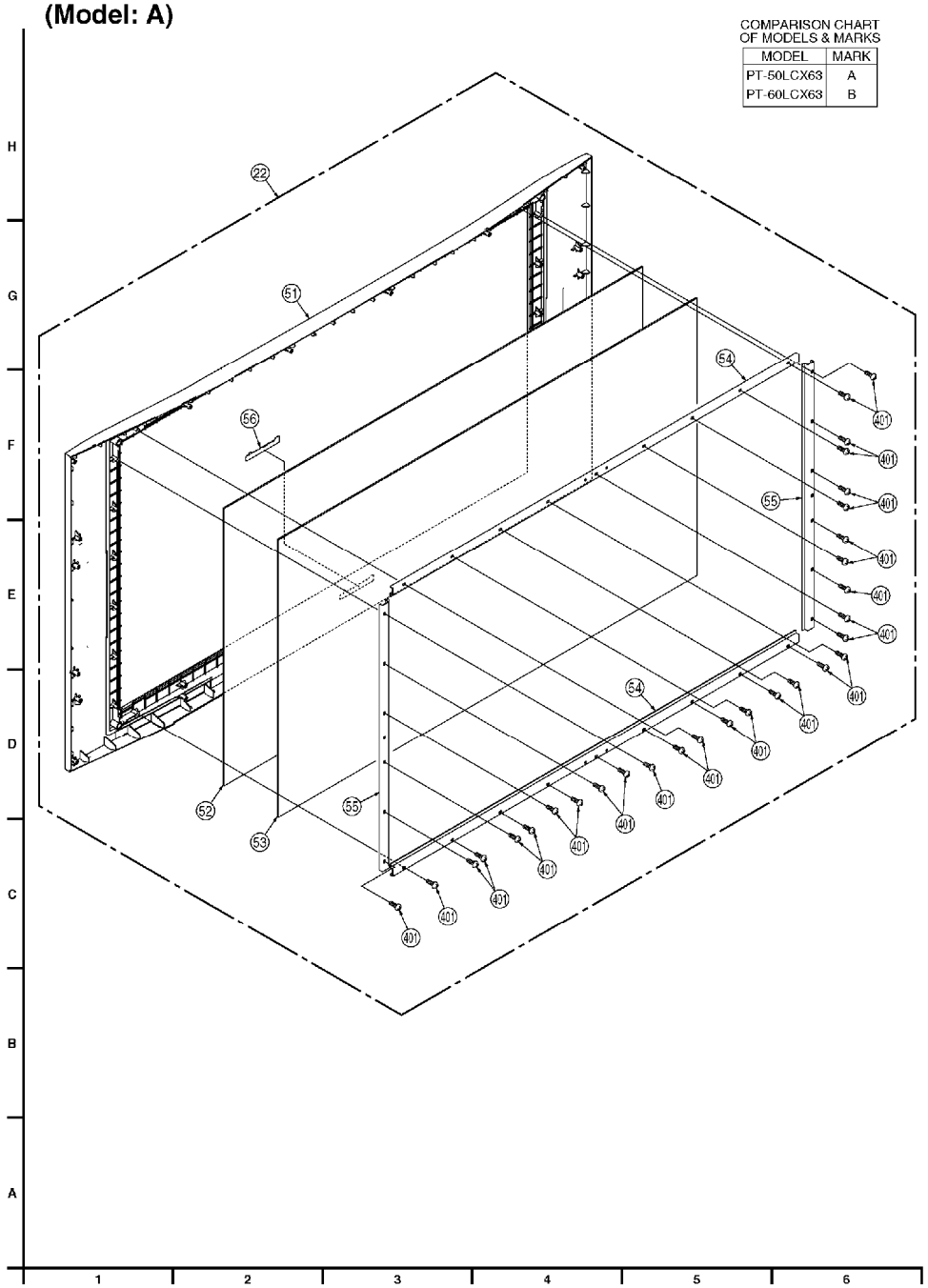
10.4. SCREEN SECTION

(Model: A)

❹ 50 INCH SCREEN SECTION
(Model: A)

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PT-50LCX63	A
PT-60LCX63	B

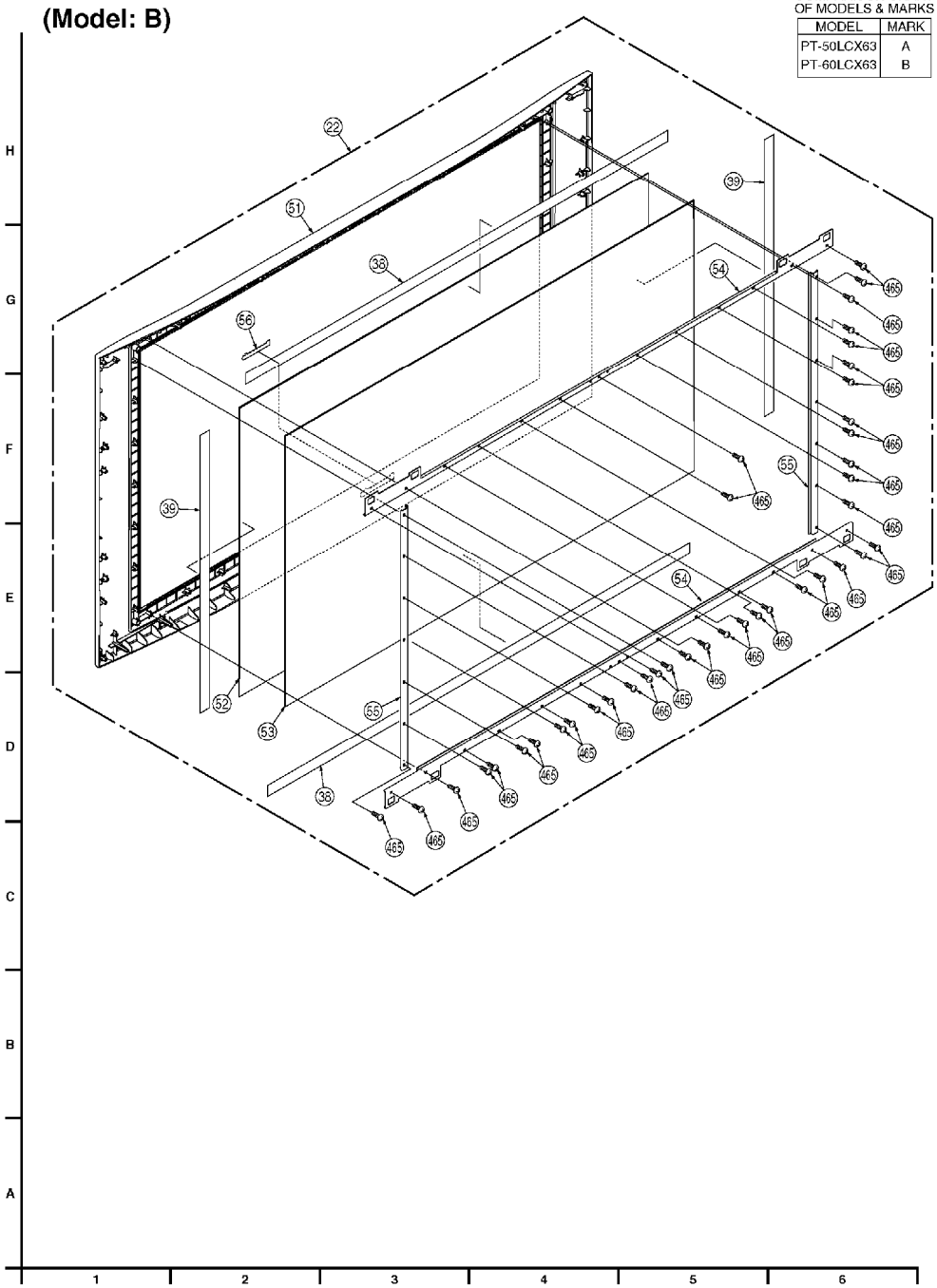


(Model: B)

❹ 60 INCH SCREEN SECTION
(Model: B)

COMPARISON CHART
OF MODELS & MARKS

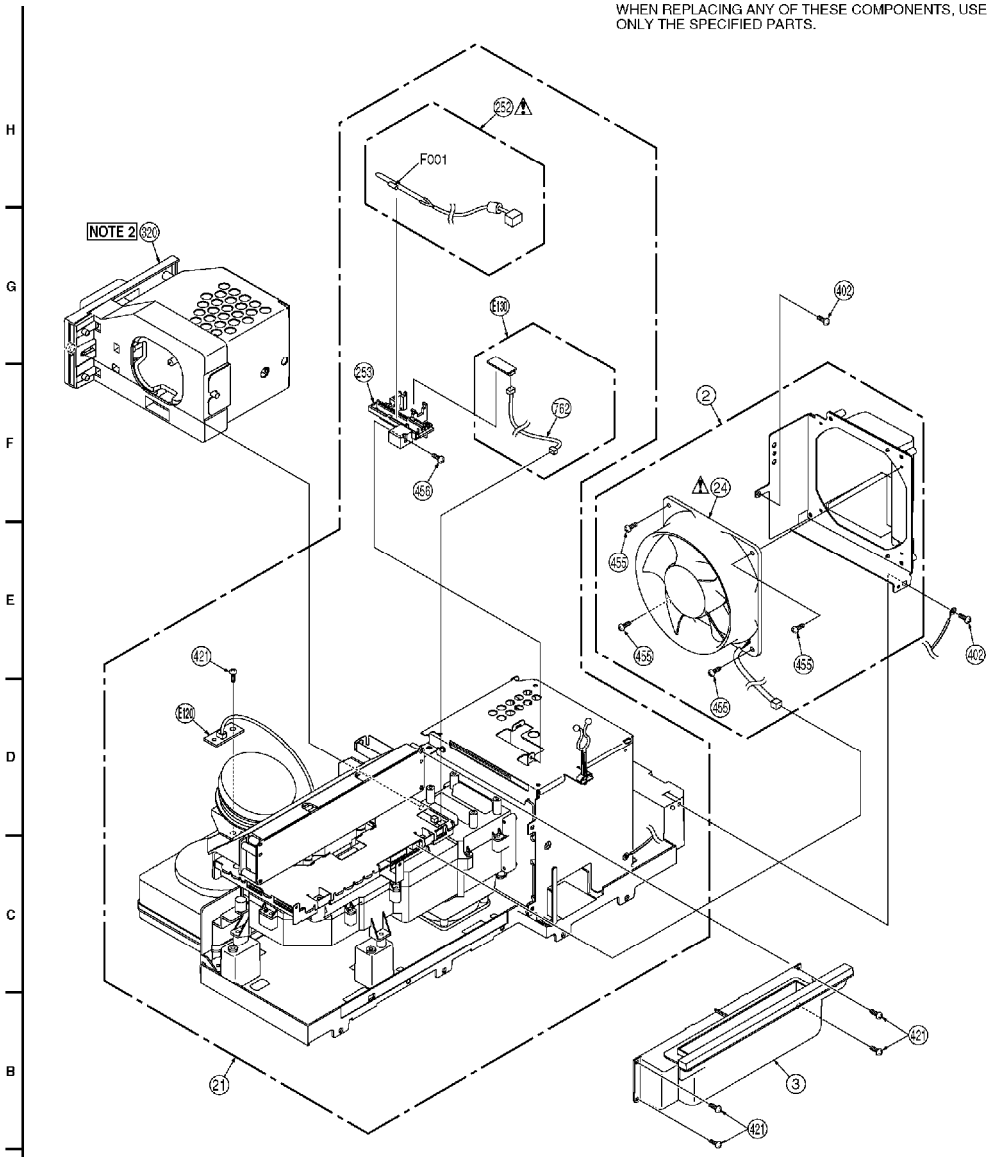
MODEL	MARK
PT-50LCX63	A
PT-60LCX63	B



10.5. PROJECTION SECTION

❺ PROJECTION SECTION

IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

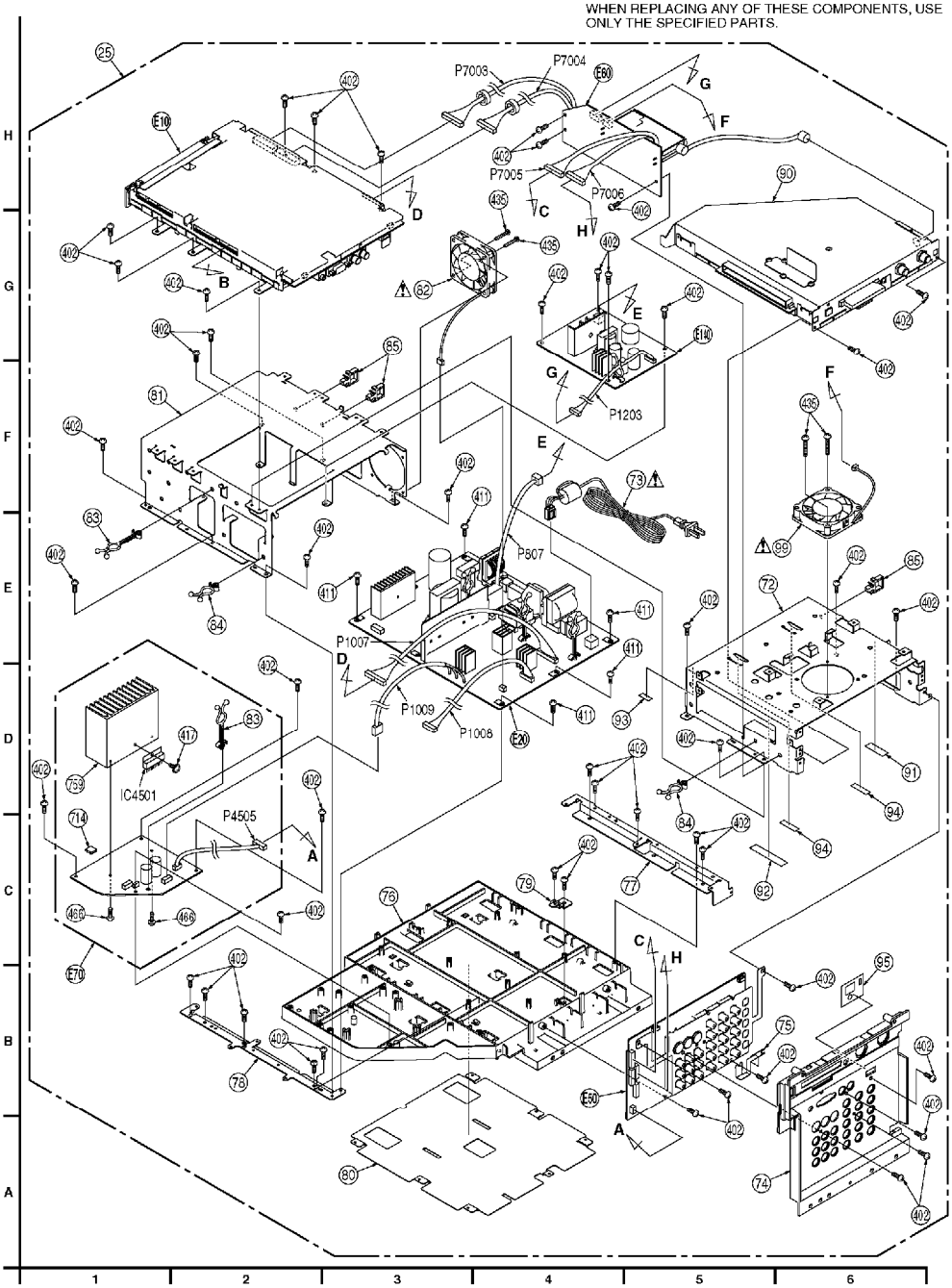


NOTE 2:
The Lamp Unit (TY-LA1000) is not supplied as a replacement part. It is sold separately. To purchase a replacement, call the Panasonic accessory department.

10.6. TV AND TUNER SECTION

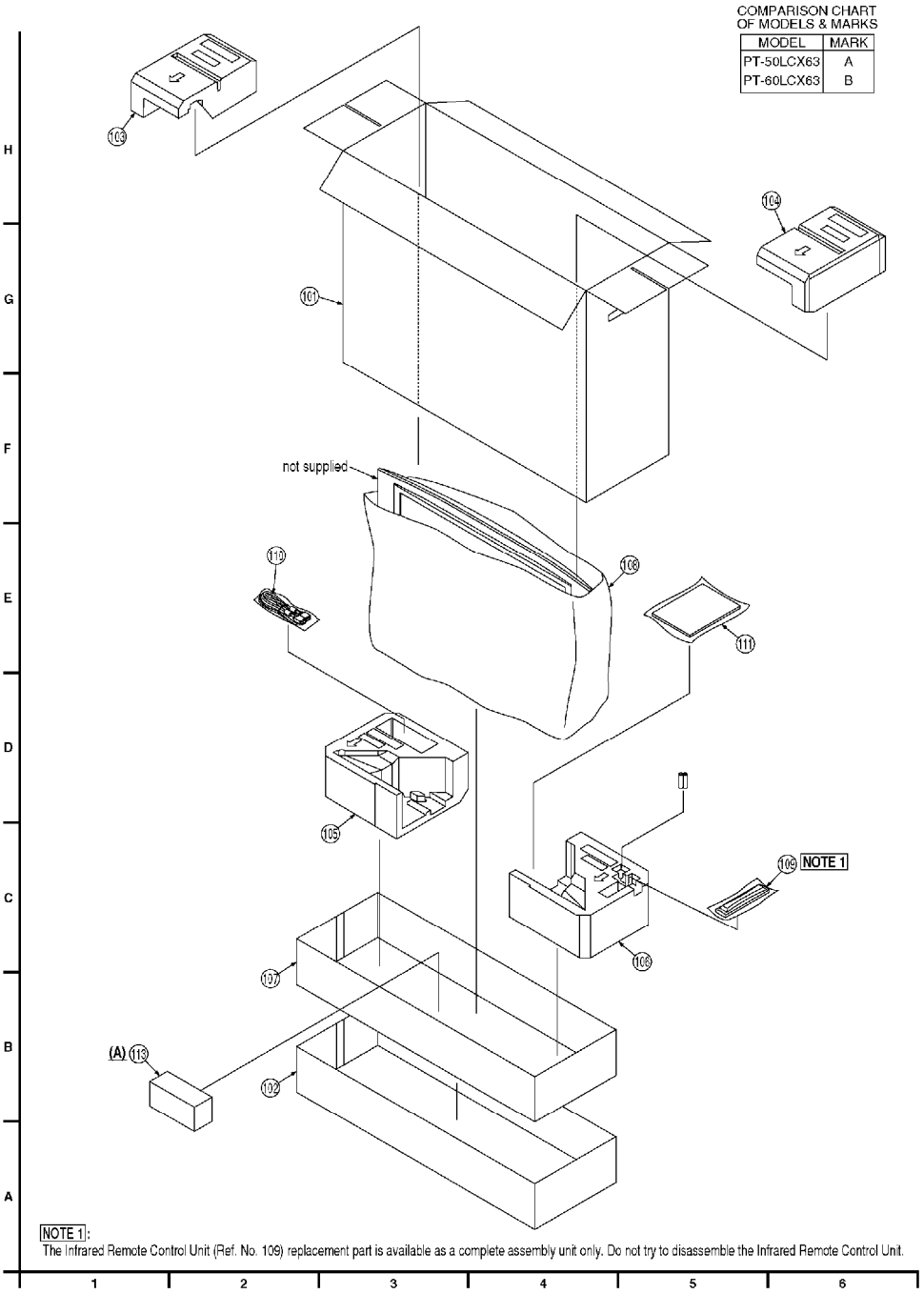
❻ TV AND TUNER SECTION

IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.



10.7. PACKING PARTS AND ACCESSORIES SECTION

❼ PACKING PARTS AND ACCESSORIES SECTION



11. REPLACEMENT PARTS LIST

BEFORE REPLACING PARTS, READ THE FOLLOWING:

11.1. REPLACEMENT NOTES

11.1.1. General Notes

1. Use only original replacement parts:

To maintain original function and reliability of repaired units, use

only original replacement parts which are listed with their part numbers in the parts list.

2. **IMPORTANT SAFETY NOTICE**
   Components identified by the sign ⚠ have special characteristics important for safety. When replacing any of these components, use only the specified parts.
3. **SPECIAL NOTE**
   All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTASTICALLY SENSITIVE (ES) DEVICES" section of this service manual.
4. **Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.**
5. **Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.**
6. **Definition of Parts supplier:**
   A. Parts with mark "MKE" in the Remarks column are supplied from MKE.
   B. Parts without mark in the Remarks column are supplied from MKA.
7. **Item numbers with capital letter E (Example: E10, E20,...) in the Ref. No. column are shown in the exploded views.**
8. **Parts whose Ref. Nos. are the same are interchangeable as replacement parts. Any of these parts may be ordered and used as a replacement part.**

11.1.2. Mechanical Replacement Notes

1. **Section No. of parts shown in Exploded Views are indicated in the Remarks column.**
2. **Abbreviation**
   RTL: Retention Time Limited
   This indicates that the retention time is limited for this item. After

the discontinuation of this item in production, it will no longer be available.

3. **After replacing the Projection Unit (Ref. No. 21), be sure to perform "ADJUSTMENT of the Projection Unit." Refer to "WHEN REINSTALLING THE PROJECTION UNIT INTO THE UNIT AT THE USER'S LOCATION" in SERVICE NOTES.**
4. **The Infrared Remote Control Unit (Ref. No. 109) replacement part is available as a complete assembly unit only. Do not try to disassemble the Infrared Remote Control Unit.**

11.1.3. Optional Accessory Replacement Notes

1. **When servicing TV Stand (TY-50LC13C), refer to the Service Manual for Model No. PT-50LC13, Order No. MKE0307850C1.**

11.1.4. Electrical Replacement Notes

1. **Unless otherwise specified;**
   All resistors are in Ω, K = 1,000 Ω, M = 1,000 kΩ.
2. **Abbreviation**

RTL:
Retention Time Limited
This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.

NR:
Non Repairable Board Ass'y

MGF CHIP:
Metal Glaze Film Chip

C CHIP:
Ceramic Chip

COMPLX CMP:
Complex Component

W FLMPRF:
Wirewound Flameproof

C.B.A.:

Circuit Board Assembly

P.C.B.:

Printed Circuit Board

E.S.D.:

Electrostatically Sensitive Devices

3. **When replacing 0 Ω resistor, a wire can be substituted for it.**
4. **Since SUB TUNER,UHF/VHF (Ref. No. 757) have already been pre-adjusted at the factory, do not try to adjust them. The replacement parts for them are available as a complete assembly unit only.**

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PT-50LCX63	A
PT-60LCX63	B

11.2. MECHANICAL REPLACEMENT PARTS LIST

Definition of Parts supplier:

1. **Parts with mark "MKE" in the Remarks column are supplied from MKE.**
2. **Parts without mark in the Remarks column are supplied from MKA.**

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PT-50LCX63	A
PT-60LCX63	B

MECHANICAL REPLACEMENT PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
1	LSYK1216	BASE BODY UNIT (A)	2
1	LSYK1291	BASE BODY UNIT (B)	2
2	LSXY0507	FAN 3 UNIT	5
3	LSXA0531	TOP DUCT 3 UNIT	5
4	LSQL1638	CAUTION LABEL	1
5	LSGL0390	INFRARED PIECE	2
6	LSMA0688	LAMP COVER FIX PLATE,STEEL	2
7	LSMA0697	DISPLAY SUPPORT PLATE R,STEEL	2
8	LSMA0696	DISPLAY SUPPORT PLATE L,STEEL	2
9	LSYK1235	FRONT COVER UNIT	1
10	LSKG0036	FRONT SIDE COVER L	2
11	LSYY0031	SD DOOR UNIT	1
12	LSKF0528	OPTICAL COVER	1
13	LSYK1220	LAMP COVER UNIT	2
14	LSJA0467	CONNECTOR CABLE W/PLUG,	1
15	LSSC0648	GROUNDING PLATE A,STEEL	1
16	LSMA0686	REAR SUPORT PLATE,STEEL	1
17	LSGV0061	REAR COVER (A)	1
17	LSGV0057	REAR COVER (B)	1
18	STL450-3-1BK	CLAMPER	1
19	SLCSE2-500-3	CLAMPER	1
20	LSXA0478	CLAMPER UNIT	1
21	LSXA0528-HBS	PROJECTION UNIT (A)	5 RTL MKE
21	LSXA0540-HBS	PROJECTION UNIT (B)	5 RTL MKE
22	LSYK1214	SCREEN UNIT (A)	3,4
22	LSYK1238	SCREEN UNIT (B)	3,4
23	TMM14414	STRIKE	1
24	FBL12G12L2CS	FAN 3	5 ⚠
25	LSXY0520	TV/TUNER UNIT	1,6 RTL
26	LSGV0073	60 REAR COVER (B)	1
31	EASG5PH519A2	TWEETER	3
32	EASG10P579A2	WOOFER	3
33	LSMF0290	SPACER	3
34	LSGQ0088	SPEAKER BOX FRONT	3
35	LSGQ0089	SPEAKER BOX REAR	3
36	TMMJ058	SPEAKER RUBBER	3
37	LSMF0278	ACOUSTIC CUSHION	3
38	LSGQ0109	SPACER (B)	4
39	LSGQ0110	SPACER (B)	4
41	LSKG0039	FRONT SIDE COVER R	2
42	LSXU0012	OPERATION BUTTON UNIT	2
44	LSJH0066	SIDE JACK HOLDER	2
51	LSGY0165	ESCUTCHEON (A)	4
51	LSGY0183	ESCUTCHEON (B)	4
52	LSGP0365	LENTICULAR SCREEN (A)	4
52	LSGP0373	LENTICULAR SCREEN (B)	4
53	LSGP0366	FRESNEL LENS (A)	4
53	LSGP0374	FRESNEL LENS (B)	4
54	LSXA0548	SCREEN PALTE H UNIT,STEEL (A)	4
54	LSXA0541	SCREEN PLATE H UNIT,STEEL (B)	4
55	LSXA0549	SCREEN PLATE V UNIT,STEEL (A)	4
55	LSXA0542	SCREEN PLATE V UNIT,STEEL (B)	4
56	TBM2AA0071	PANASONIC BADEG	4
57	LSGV0056	BACK COVER (A)	3

[illegible]	[illegible]	[illegible]	[illegible]

Ref. No.	Part No.	Part Name & Description	Remarks
57	LSGV0060	BACK COVER (B)	3
58	LSDL0243	MIRROR (A)	3
58	LSDL0247	MIRROR (B)	3
59	LSMF0280	SPACER	3
60	LSMF0281	SPACER (A)	3
60	LSMF0311	SPACER (B)	3
61	LSGQ0092	MIRROR HOLDER H	3
62	LSYF0541	MIRROR HOLDER V UNIT (A)	3
62	LSYF0543	MIRROR HOLDER V UNIT (B)	3
63	LSMA0700	BACK COVER PLATE,STEEL (A)	3
63	LSMA0715	BACK COVER PLATE,STEEL (B)	3
64	LSMF0288	SPACER	3
65	LSMF0289	SPACER	3
66	LSJA0474	CONENCTOR CABLE W/PLUG (A)	3
66	LSJA0475	CONNECTOR CABLE W/PLUG (B)	3
67	LSMF0291	SPACER	3
68	LSMF0292	SPACER	3
69	TMM77409	CLAMPER	1
72	LSMA0691	TUNER PCB FRAME	6
73	LSJA0456-FE	AC CORD W/PLUG	6 ⚠
74	LSJH0068	REAR JACK HOLDER	6
75	LSSC0672	GROUNDING PLATE C,STEEL	6
76	LSMP0440	PCB FRAME	6
77	LSMA0693	PCB FRAME PLATE LEFT,STEEL	6
78	LSMA0694	PCB FRAME PLATE RIGHT,STEEL	6
79	LSMA0695	PCB FRAME PLATE CENTER,STEEL	6
80	LSSC0646	BOTTOM SHIELD PLATE	6
81	LSMA0690	MAIN PCB FRAME	6
82	L6FAKCDH0007	FAN 4	6 ⚠
83	TMM5439-1	CLAMPER	6
84	TMM7464-1	CLAMPER	6
85	TMM6425-1	CLAMPER	6
90	CA-DAB1	DTV TUNER UNIT	6
91	LSMF0302	SPACER	6
92	LSMF0303	SPACER	6
93	LSMF0304	SPACER	6
94	LSMF0305	SPACER	6
95	LSMZ0371	HDMI SHEET	6
99	L6FAKCDH0007	FAN 5	6 ⚠
101	LSPG1593	CARTON BOX (A)	7
101	LSPG1606	CARTON BOX (B)	7
102	LSPG1548	CARTON BOX BOTTOM (A)	7
102	LSPG1605	CARTON BOX BOTTOM (B)	7
103	LSPN0339	CUSHION TOP L (A)	7
103	LSPN0418	CUSHION TOP L (B)	7
104	LSPN0340	CUSHION TOP R (A)	7
104	LSPN0419	CUSHION TOP R (B)	7
105	LSPN0341	CUSHION BOTTOM L (A)	7
105	LSPN0420	CUSHION BOTTOM L (B)	7
106	LSPN0342	CUSHION BOTTOM R (A)	7
106	LSPN0421	CUSHION BOTTOM R (B)	7
107	LSPG1549	INSIDE CARTON (A)	7
107	LSPG1604	INSIDE CARTON (B)	7

Ref. No.	Part No.	Part Name & Description	Remarks
108	LSPF0111	BAG,POLYETHYLENE	7
109	EUR7627Z10	INFRARED REMOTE CONTROL UNIT	7
110	LSJA0239	RGB CABLE W/PLUG,DC 5V	7
111	LSQF0742	FAN BAG	7
113	LSPN0430	FRONT CUSHION (A)	7
252	LSJA0464-FE	THERMAL FUSE UNIT	5 ⚠ MKE
253	LSMP0420	SENSOR HOLDER	5 MKE
401	XTV4+16A	TAPPING SCREW,STEEL	1,2,3,4
402	XTV3+8J	TAPPING SCREW,STEEL	1,2,5,6
406	XTV3+10J	TAPPING SCREW,STEEL	3
411	XYE3+FF8	SCREW W/WASHER,STEEL	6
417	XYN3+K10	SCREW,STEEL	6
421	XTV3+8G	TAPPING SCREW,STEEL	2,5
435	XTV3+20J	TAPPING SCREW,STEEL	6
450	XTV4+30A	TAPPING SCREW,STEEL	3
451	XTW3+8Q	SCREW,STEEL	1
452	XTV3+8F	TAPPING SCREW,STEEL	1
453	XWG5F16	WASHER,STEEL	3
454	XTV4+16AFZ	TAPPING SCREW,STEEL	1,2
455	XTV3+12J	SCREW,STEEL	5
456	XTV3+6F	TAPPING SCREW,STEEL	5 MKE
464	XTV4+20A	TAPPING SCREW,STEEL (B)	1
465	XTV4+12A	TAPPING SCREW,STEEL (B)	4
466	XTV3+10G	TAPPING SCREW,STEEL	6
714	VMTS0035	CUSHION,RUBBER	6
751	J0KA00000044	FERRITE CORE	2
752	LSLQ0307	FERRITE CORE	2
759	LSSC0634	HEAT SINK	6
762	LSJA0478	CONNECTOR CABLE W/PLUG	5 MKE
E10	LSXY0522	MAIN C.B.A.	6 RTL MKE
E20	LSEP3088B	POWER C.B.A.	6 RTL
E30	LSEB3087A	BALLAST C.B.A. NR	1
E40	LSEP3094A	FRONT JCAK C.B.A.	2 RTL
E50	LSXY0523	REAR JACK C.B.A.	6 RTL
E60	LSEP3108A	TUNER C.B.A.	6 RTL
E70	LSEP3092A	AUDIO AMP C.B.A.	6 RTL
E80	LSEP3096A	OPERATION C.B.A.	2 RTL
E90	LSEP3097A	NETWORK C.B.A.	3 RTL
E100	LSEP3098A	COVER SWITCH C.B.A.	2 RTL
E120	LSEP3099A1	THERMISTOR 1 C.B.A.	5 RTL MKE
E130	LSEP3100A	THERMISTOR 2 C.B.A.	5 RTL MKE
E140	LSEP3109A	DIGITAL TUNER POWER C.B.A.	6 RTL

11.3. OPTIONAL ACCESSORY REPLACEMENT PARTS LIST

11.3.1. LAMP UNIT

Ref. No.2	Part No.	Part Name & Description	Remarks
320	TY-LA1000	LAMP UNIT	5 NOTE

NOTE:

The Lamp Unit (TY-LA1000) is not supplied as a replacement part. It

is sold separately. To purchase a replacement, call the Panasonic accessory department.

11.4. ELECTRICAL REPLACEMENT PARTS LIST

Definition of Parts supplier:

1. **Parts with mark "MKE" in the Remarks column are supplied from MKE.**
2. **Parts without mark in the Remarks column are supplied from MKA.**

PRINTED CIRCUIT BOARD ASSEMBLY

Ref. No.	Part No.	Part Name & Description	Remarks
E10	LSXY0522	MAIN C.B.A.	E.S.D. RTL MKE
E20	LSEP3088B	POWER C.B.A.	RTL
E30	LSEB3087A	BALLAST C.B.A. NR	
E40	LSEP3094A	FRONT JCAK C.B.A.	RTL
E50	LSXY0523	REAR JACK C.B.A.	E.S.D. RTL
E60	LSEP3108A	TUNER C.B.A.	RTL
E70	LSEP3092A	AUDIO AMP C.B.A.	RTL
E80	LSEP3096A	OPERATION C.B.A.	RTL
E90	LSEP3097A	NETWORK C.B.A.	RTL
E100	LSEP3098A	COVER SWITCH C.B.A.	RTL
E120	LSEP3099A1	THERMISTOR 1 C.B.A.	RTL MKE
E130	LSEP3100A	THERMISTOR 2 C.B.A.	RTL MKE
E140	LSEP3109A	DIGITAL TUNER POWER C.B.A.	RTL

11.4.1. FRONT JCAK C.B.A.

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D3901	B0BD6R200002	DIODE ZENER 6.2V	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R3901	ERJ6ENF75R0V	MGF CHIP 1/10W 75	
R3902	ERJ6ENF75R0V	MGF CHIP 1/10W 75	
R3903	ERJ6ENF75R0V	MGF CHIP 1/10W 75	
R3904	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R3905	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R3906	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R3907	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R3908	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R3911	ERJ6GEYJ750V	MGF CHIP 1/10W 75	
R3912	ERJ6GEYJ750V	MGF CHIP 1/10W 75	
R3913	ERJ6GEYJ750V	MGF CHIP 1/10W 75	
R3914	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R3915	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R3916	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R3917	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R3918	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R4801	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R4802	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R4803	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R4804	ERJ6GEYJ101V	MGF CHIP 1/10W 100	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P3901	LSJA0469	CONNECTOR CABLE W/PLUG,5V	
P3902	LSJA0470	CONNECTOR CABLE W/PLUG,5V	

JACKS

Ref. No.	Part No.	Part Name & Description	Remarks
JK3901	K1FB115A0015	D-SUB MINI JACK SOCKET	
JK4801	K1U412A00008	S-JACK SOCKET	
JK4802	K2HC103A0017	EARPHONE JACK SOCKET	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
751	J0KA00000044	FERRITE CORE	
752	LSLQ0307	FERRITE CORE	

11.4.2. AUDIO AMP C.B.A.

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC4501	C1AA00000660	IC, LINEAR	
IC4503	C0CAAKE00013	IC, LINEAR	

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q4501	2SD0601AHL	TRANSISTOR SI NPN CHIP	
Q4501	B1ABCF000011	TRANSISTOR SI NPN CHIP	
Q4501	B1ABCF000106	TRANSISTOR SI NPN CHIP	
Q4504	2SD0601AHL	TRANSISTOR SI NPN CHIP	
Q4504	B1ABCF000011	TRANSISTOR SI NPN CHIP	
Q4504	B1ABCF000106	TRANSISTOR SI NPN CHIP	
Q4505	2SD0601AHL	TRANSISTOR SI NPN CHIP	
Q4505	B1ABCF000011	TRANSISTOR SI NPN CHIP	
Q4505	B1ABCF000106	TRANSISTOR SI NPN CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D4501	MAZ40510MF	DIODE ZENER 5.1V	
D4501	HZS5C2TD	DIODE ZENER 5.1V	
D4501	HZS5C3TD	DIODE ZENER 5.1V	
D4504	MA2C16700E	DIODE SI	
D4504	B0AAEL000001	DIODE SI	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R4501	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R4502	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R4503	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R4504	ERX1SJ4R7P	METAL OXIDE 1W 4.7	
R4505	ERX1SJ4R7P	METAL OXIDE 1W 4.7	
R4506	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R4507	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R4508	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
R4509	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
R4510	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R4511	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R4512	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R4513	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R4525	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R4526	ERJ6GEYJ821V	MGF CHIP 1/10W 820	
R4527	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R4543	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R4544	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R4545	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R4546	ERJ6GEY0R00V	MGF CHIP 1/10W 0	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C4501	ECA1VM102B	ELECTROLYTIC 35V 1000UF	
C4502	ECA1VM102B	ELECTROLYTIC 35V 1000UF	
C4503	ECEA1CKA100	ELECTROLYTIC 16V 10UF	
C4504	ECQB1H104KF	POLYESTER 50V 0.1UF	
C4505	ECQB1H104KF	POLYESTER 50V 0.1UF	
C4506	ECJ2VB1E473K	C CHIP 25V 0.047UF	
C4507	ECJ2VB1E473K	C CHIP 25V 0.047UF	
C4508	ECJ2VB1E683K	C CHIP 25V 0.068UF	
C4509	ECJ2VB1E683K	C CHIP 25V 0.068UF	
C4510	ECEA1HKN010B	ELECTROLYTIC 50V 1UF	
C4511	ECEA1HKN010B	ELECTROLYTIC 50V 1UF	
C4512	ECJ2VF1H104Z	C CHIP 50V 0.1UF	
C4513	ECJ2VF1H104Z	C CHIP 50V 0.1UF	
C4514	ECA1HM100B	ELECTROLYTIC 50V 10UF	
C4516	ECEA1CKA100	ELECTROLYTIC 16V 10UF	
C4526	ECEA1CKN100	ELECTROLYTIC 16V 10UF	
C4527	ECEA1CKN100	ELECTROLYTIC 16V 10UF	
C4528	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7UF	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P4501	K1KA03A00008	CONNECTOR 3P	
P4503	K1KA04A00192	CONNECTOR 2P	
P4505	LSJA0473	CONNECTOR CABLE W/PLUG,5V	

RELAY

Ref. No.	Part No.	Part Name & Description	Remarks
RL4501	K6B2AGA00038	RELAY	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
83	TMM5439-1	CLAMPER	
435	XTW3+10J	TAPPING SCREW,STEEL	
466	XYN3+10G	TAPPING SCREW,STEEL	
714	VMTS0035	CUSHION,RUBBER	
759	LSSC0634	HEAT SINK	

11.4.3. OPERATION C.B.A.

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q6701	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q6701	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q6701	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q6702	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q6702	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q6702	B1ADCF000075	TRANSISTOR SI PNP CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D6701	B3AGA0000072	LIGHT EMITTING DIODE GREEN	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R6702	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6703	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6704	ERJ6GEYJ391V	MGF CHIP 1/10W 390	
R6705	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R6706	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6707	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P6701	LSJA0472	CONNECTOR CABLE W/PLUG,5V	

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW6701	EVQ11G05R	SWITCH PUSH	
SW6702	EVQ11G05R	SWITCH PUSH	
SW6703	EVQ11G05R	SWITCH PUSH	
SW6704	EVQ11G05R	SWITCH PUSH	
SW6705	EVQ11G05R	SWITCH PUSH	

11.4.4. NETWORK C.B.A.

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C4551	F2J1J3R3A003	ELECTROLYTIC 63V 3.3UF	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P4551	K1KA02A00229	CONNECTOR 2P	
P4552	K1KA02A00188	CONNECTOR 2P	
P4553	K1KA02A00008	CONNECTOR 2P	

11.4.5. COVER SWITCH C.B.A.

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P2912	LSJA0476	CONNECTOR CABLE W/PLUG	

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW2911	K0L1BA000070	SWITCH PUSH	

11.4.6. THERMISTOR 1 C.B.A.

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R2811	D4CA35030002	THERMISTER	⚠ MKE

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P2811	K1KA02A00096	CONNECTOR 2P	MKE

11.4.7. THERMISTOR 2 C.B.A.

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R2821	D4CE31330001	THERMISTOR	⚠ MKE

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P2821	K1KA02B00051	CONNECTOR 2P	MKE

MISCELLANEOUS

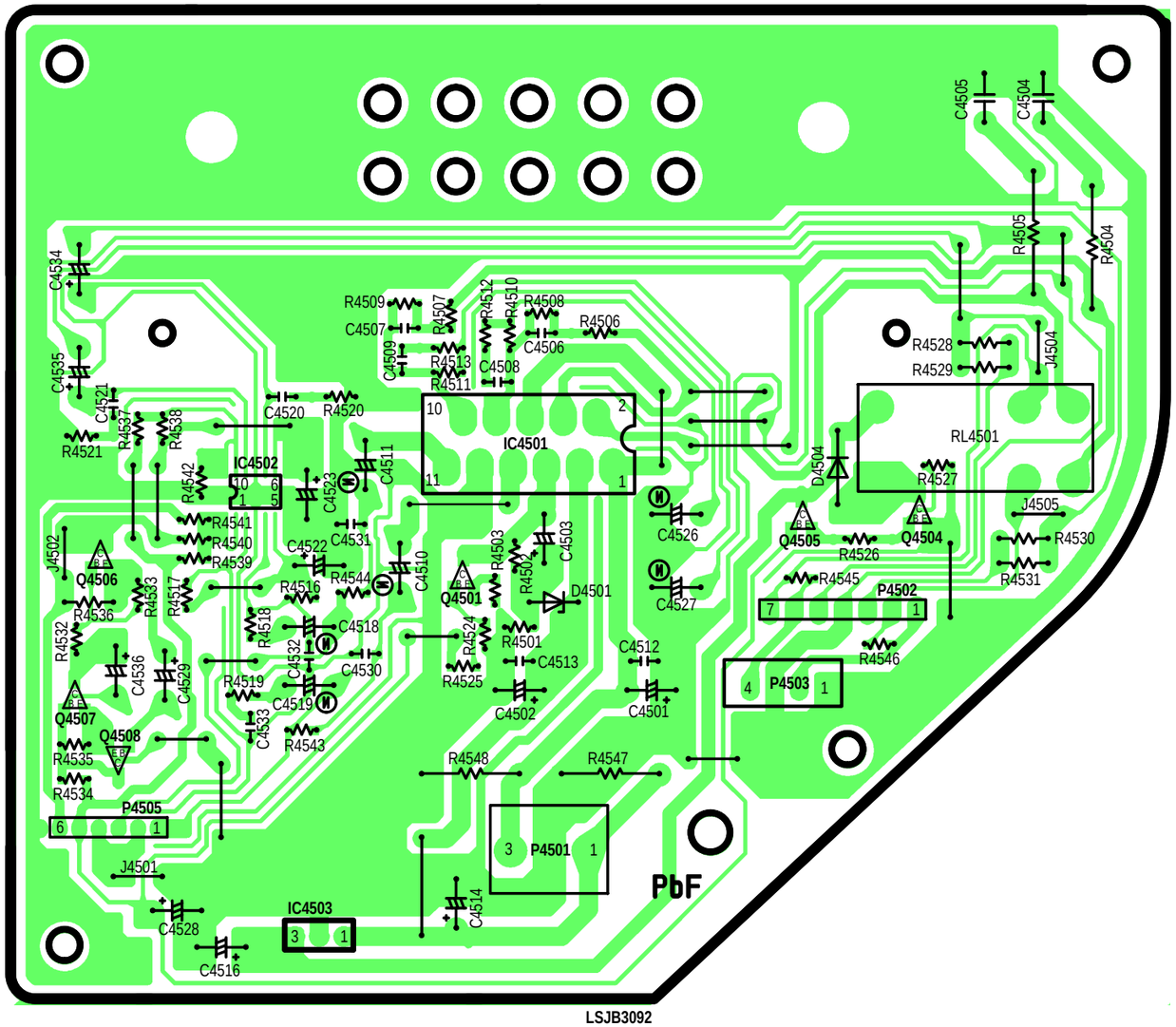
Ref. No.	Part No.	Part Name & Description	Remarks
762	LSJA0478	CONNECTOR CABLE W/PLUG	MKE

12. SCHEMATIC DIAGRAMS FOR PRINTING WITH LETTER SIZE

AUDIO AMP C.B.A. LSEP3092A

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

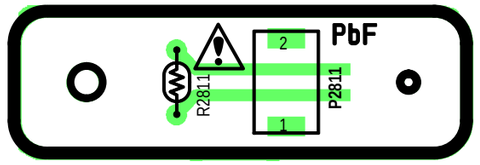
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.



LSJB3092

THERMISTOR 1 C.B.A. LSEP3099A1

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

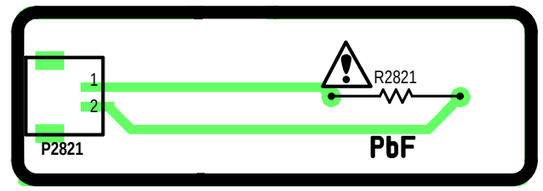


LSJB3099

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

THERMISTOR 2 C.B.A. LSEP3100A

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

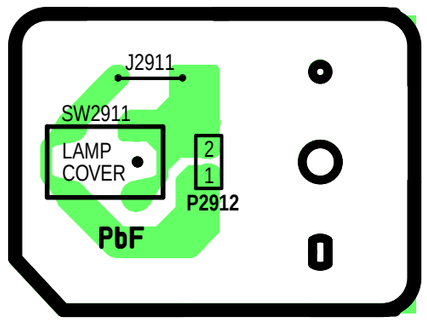


LSJB3100

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

COVER SWITCH C.B.A. LSEP3098A

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.



LSJB3098

AUDIO AMP C.B.A. LSEP3092A
THERMISTOR 1 C.B.A. LSEP3099A1
THERMISTOR 2 C.B.A. LSEP3100A
COVER SWITCH C.B.A. LSEP3098A
PT-50LCX63/PT-60LCX63

1. **Important safety notice**
   Components identified by the sign ⚠ have special characteristics important for safety. When replacing any of these components. Use only the specified parts.

2. Do not use the part number shown on this drawing for ordering.
   The correct part number and part value is shown in the parts list, and may be slightly different or amended since this drawing was prepared.

3. Use only original replacement parts:
   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Parts different in shape or size may be used.
   However, only interchangeable parts will be supplied as service replacement parts.

5. Test point information
   ● : Test point with a jumper wire across a hole in P.C.B.
   ○ : Test point with no test pin.

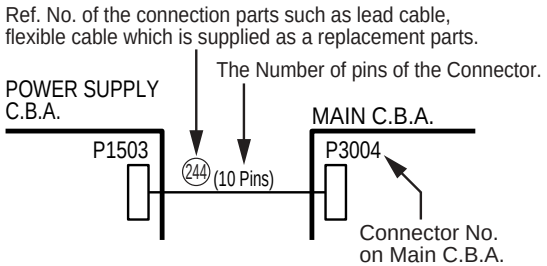
Schematic Diagram Notes

1. Indication for Zener Voltage of Zener Diodes
   The Zener Voltage of Zener Diodes are indicated as such on Schematic Diagrams.

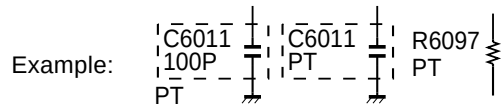
   Example:
   (6.2V).....Zener Voltage

2. How to identify Connectors
   Each connector is labeled with a Connector No. and Pin No. Indicating what it is connected to,
   in other words, its counter part.
   Use the interconnection schematic diagram to find the connection between associated connectors.

   Example:
   The connections between C.B.A.s are shown below.


Ref. No. of the connection parts such as lead cable, flexible cable which is supplied as a replacement parts.
The Number of pins of the Connector.
POWER SUPPLY C.B.A.
MAIN C.B.A.
P1503
244
(10 Pins)
P3004
Connector No. on Main C.B.A.

3. Parts marked "PT" are not used in any models included in this service model.



4. Jumper wires are used for WA10, WA5 etc and these are not supplied as replacement parts.

Circuit Board Layout Note

Circuit Board Layout shows components installed for various models.
For proper parts content for the model you are servicing, please refer to the schematic diagram and parts list.

NOTE:
Circuit Board Layout includes components which are not used.

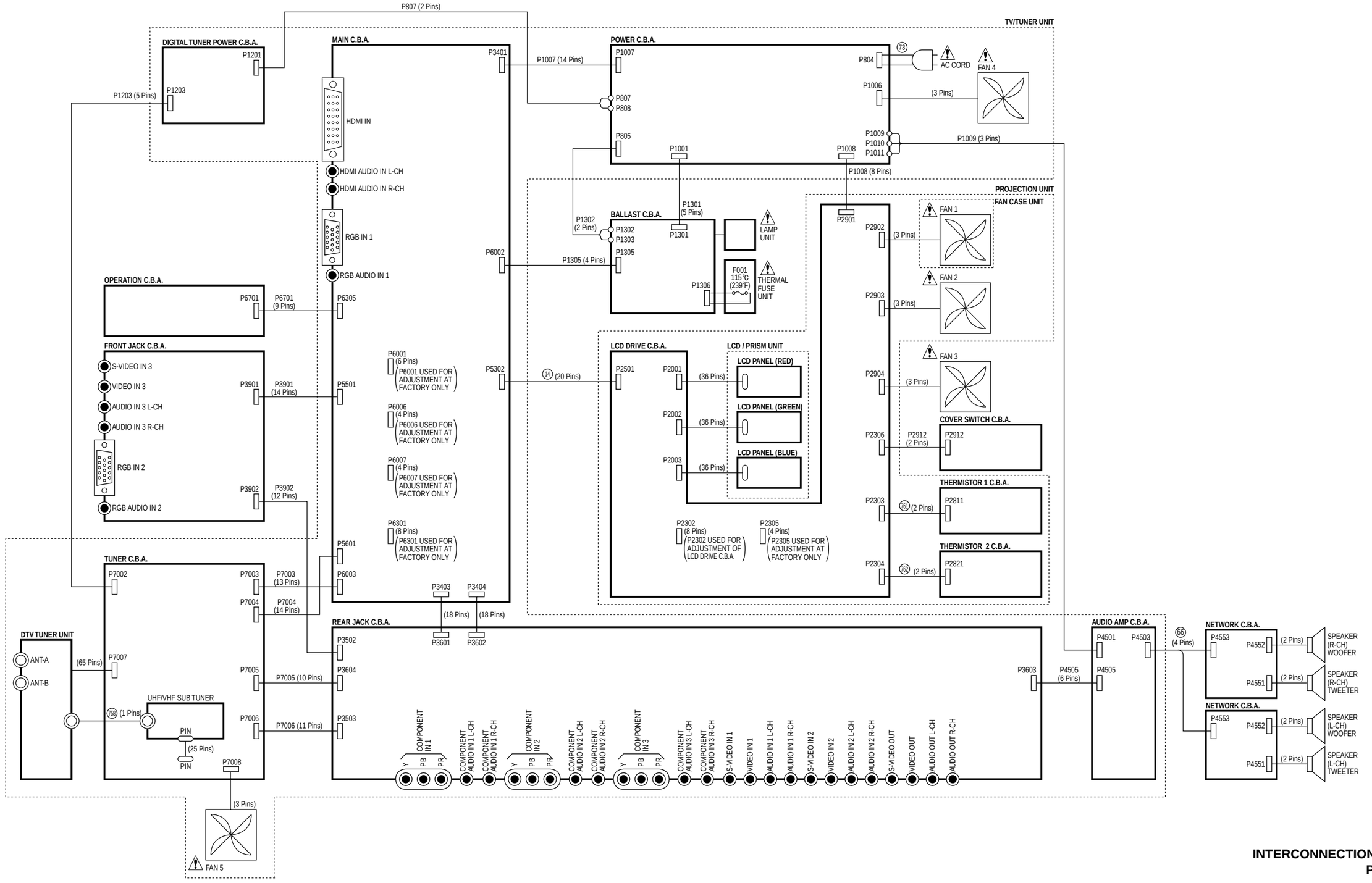
INTERCONNECTION SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

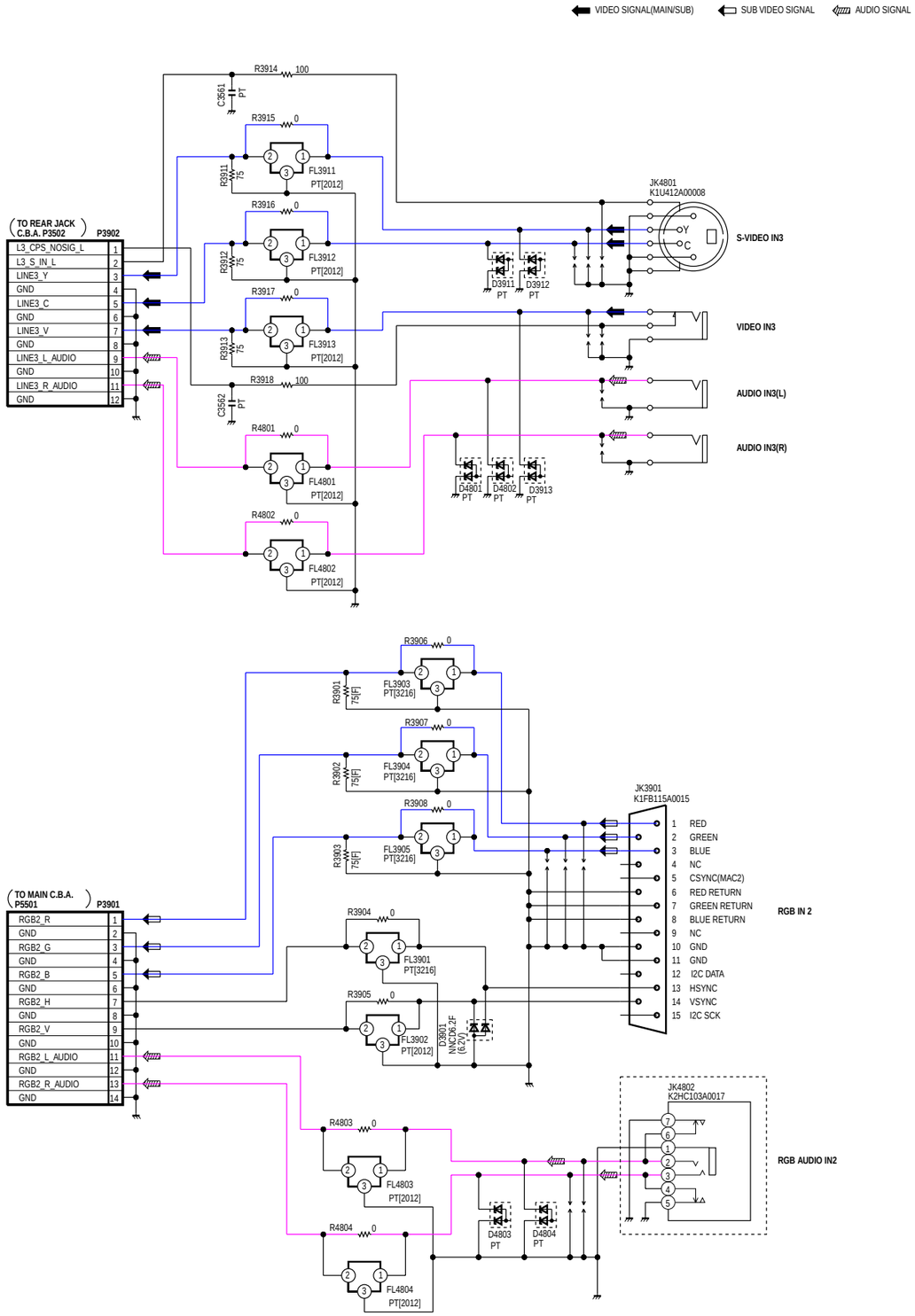
THERMAL FUSE UNIT REPLACEMENT NOTE:
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE NUMBER LSJA0464-FE (115℃).
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME TYPE NUMÉRO LSJA0464-FE (115℃)

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
THE LAMP UNIT IS NOT SUPPLIED AS A REPLACEMENT PART. WHEN REPLACING, REPLACE THE LAMP UNIT WHICH IS SUPPLIED AS A OPTIONAL ACCESSORY.



FRONT JACK SCHEMATIC DIAGRAM



NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

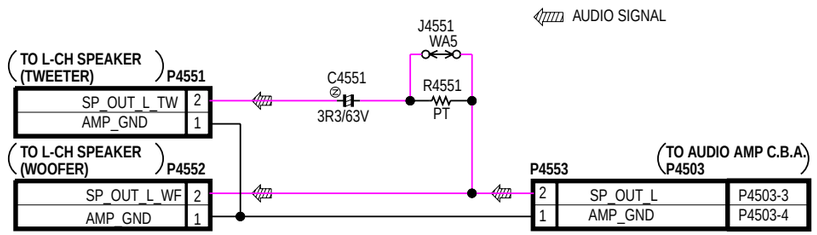
NOTE:
PARTS MARKED "PT" ARE NOT USED.

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

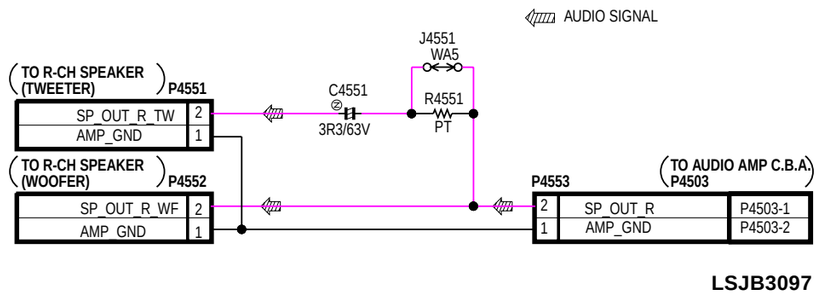
NOTE:
PARTS MARKED "PT" ARE NOT USED.

NETWORK SCHEMATIC DIAGRAM
(FOR L-CH SPEAKER)



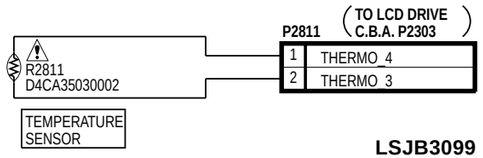
LSJB3097

NETWORK SCHEMATIC DIAGRAM
(FOR R-CH SPEAKER)



LSJB3097

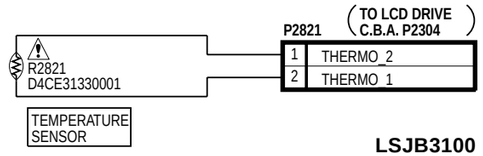
THERMISTOR 1 SCHEMATIC DIAGRAM



LSJB3099

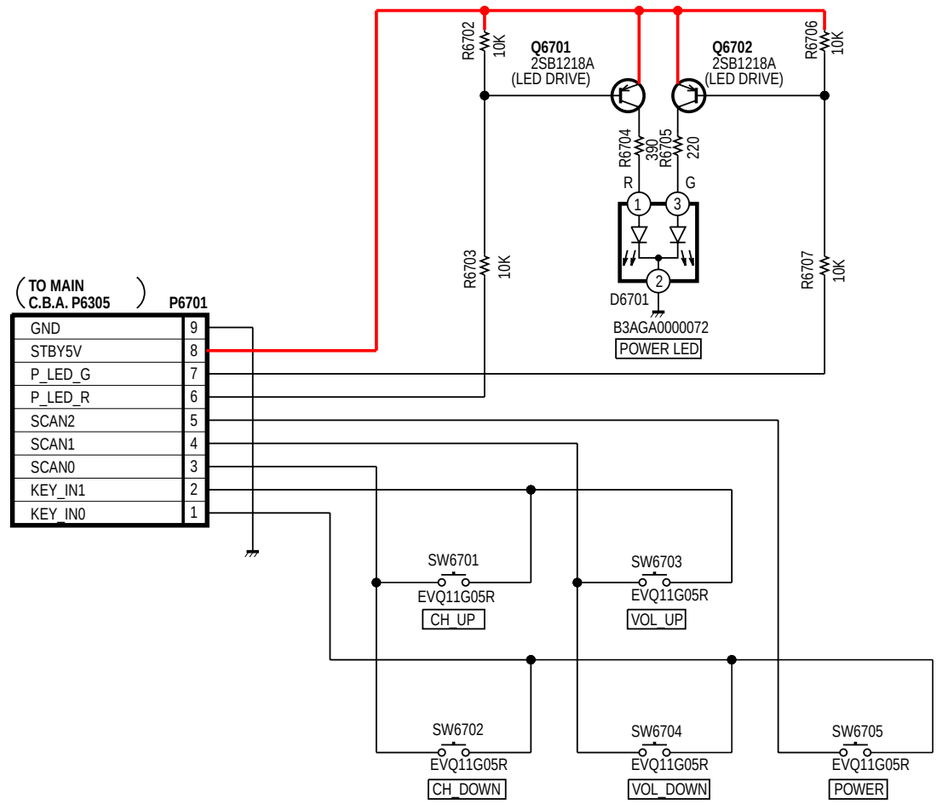
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

THERMISTOR 2 SCHEMATIC DIAGRAM



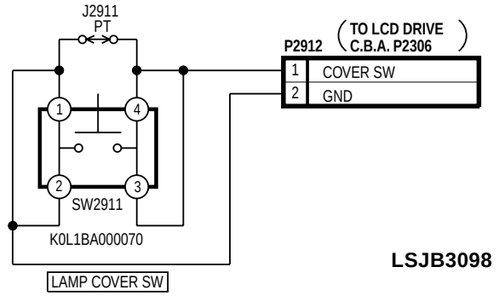
LSJB3100

OPERATION SCHEMATIC DIAGRAM



LSJB3096

COVER SWITCH SCHEMATIC DIAGRAM



LSJB3098

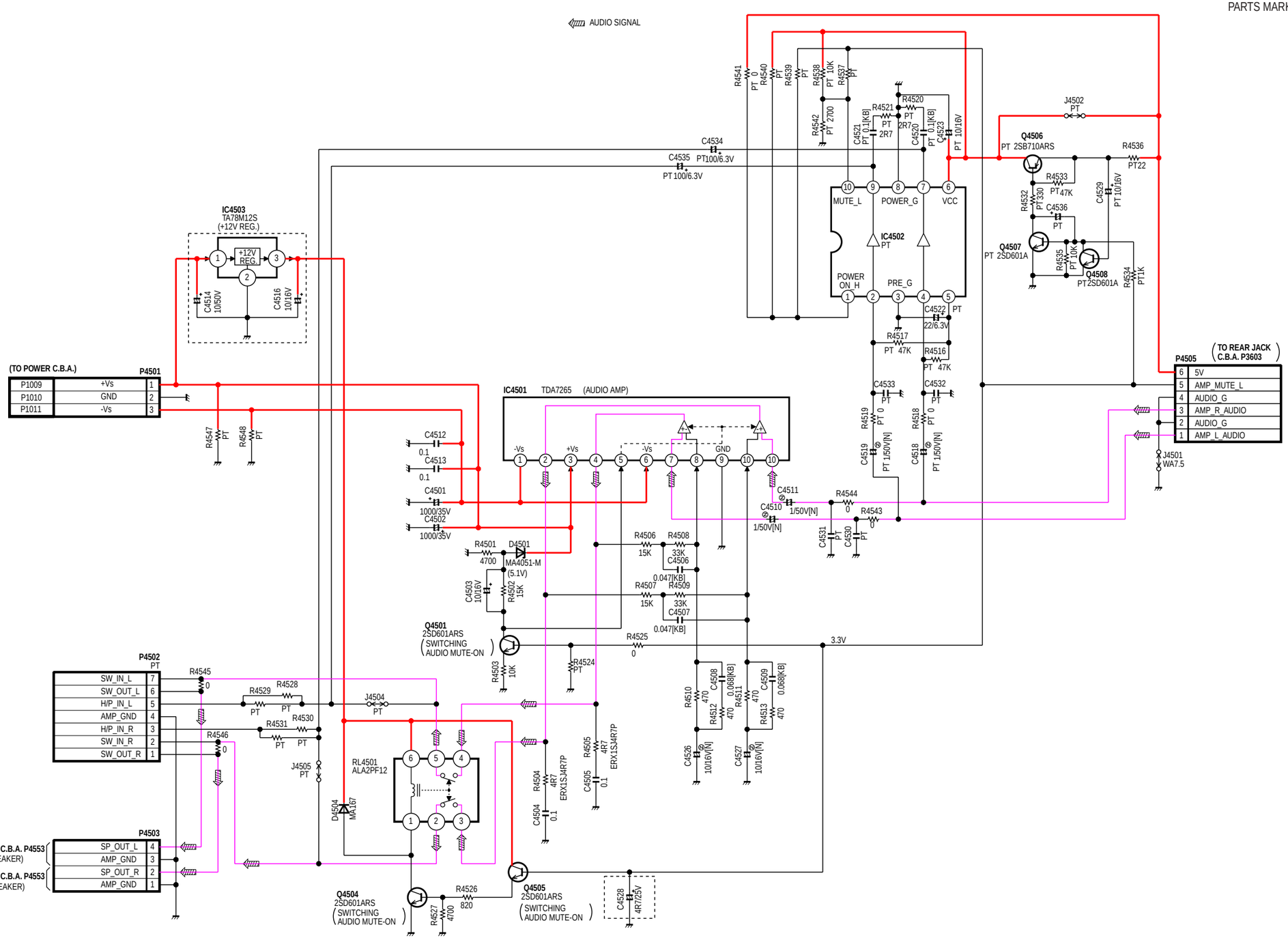
NETWORK SCHEMATIC DIAGRAM
THERMISTOR 1 SCHEMATIC DIAGRAM
THERMISTOR 2 SCHEMATIC DIAGRAM
OPERATION SCHEMATIC DIAGRAM
COVER SWITCH SCHEMATIC DIAGRAM
PT-50LCX63/PT-60LCX63

AUDIO AMP SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS MARKED "PT" ARE NOT USED.



VOLTAGE CHART

PIN NO.	VOLTAGE
IC4501	
1	-19.2
2	0
3	19.2
4	0
5	15.0
6	-19.2
7	0
8	0
9	0
10	0
11	0
IC4503	
1	19.2
2	0
3	12.0
Q4501	
E	0
C	15.0
B	0
Q4504	
E	0
C	12.0
B	0
Q4505	
E	0
C	12.0
B	0

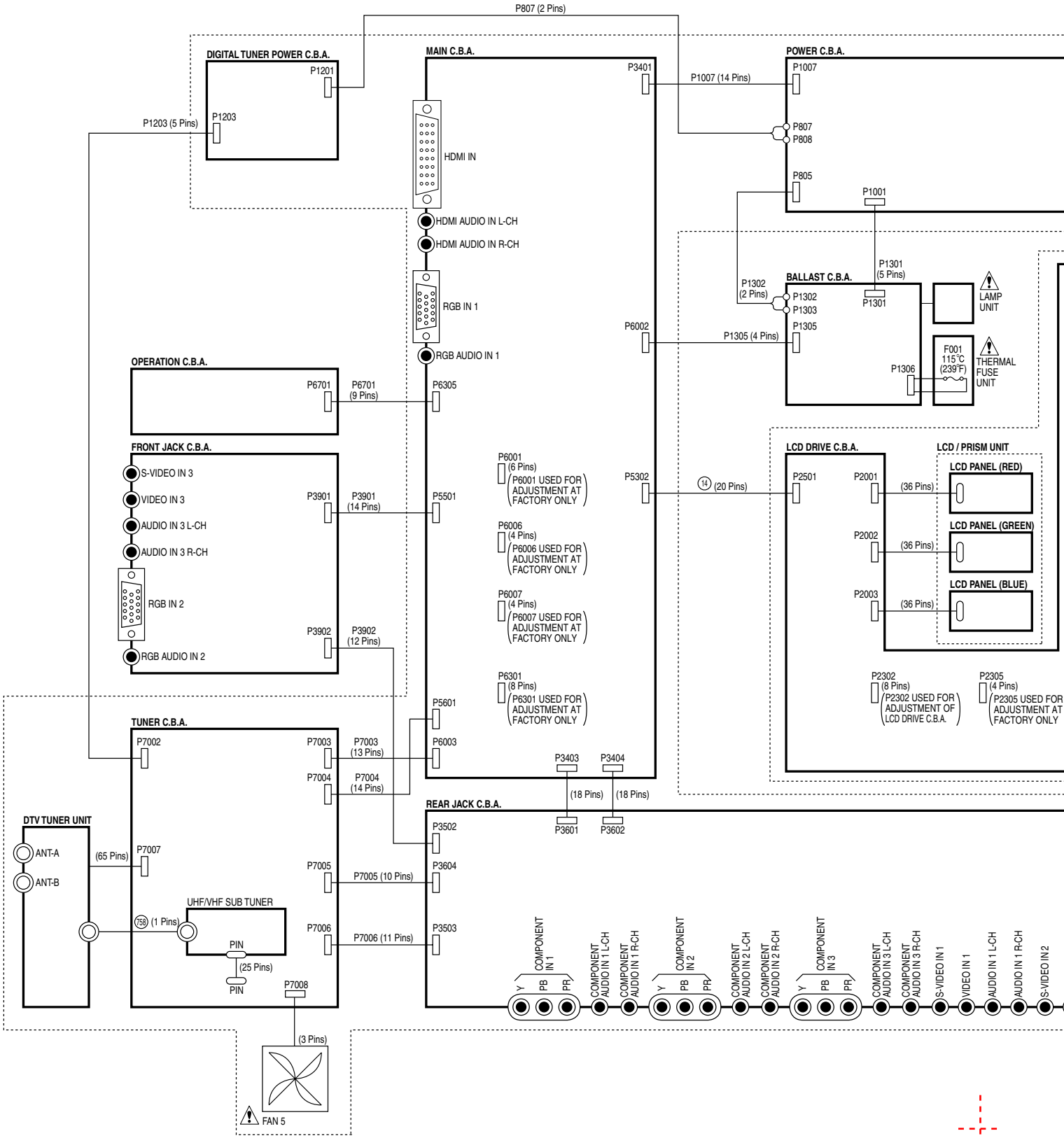
LSJB3092
AUDIO AMP SCHEMATIC DIAGRAM
PT-50LCX63/PT-60LCX63

8.2. INTERCONNECTION SCHEMATIC DIAGRAM

INTERCONNECTION SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

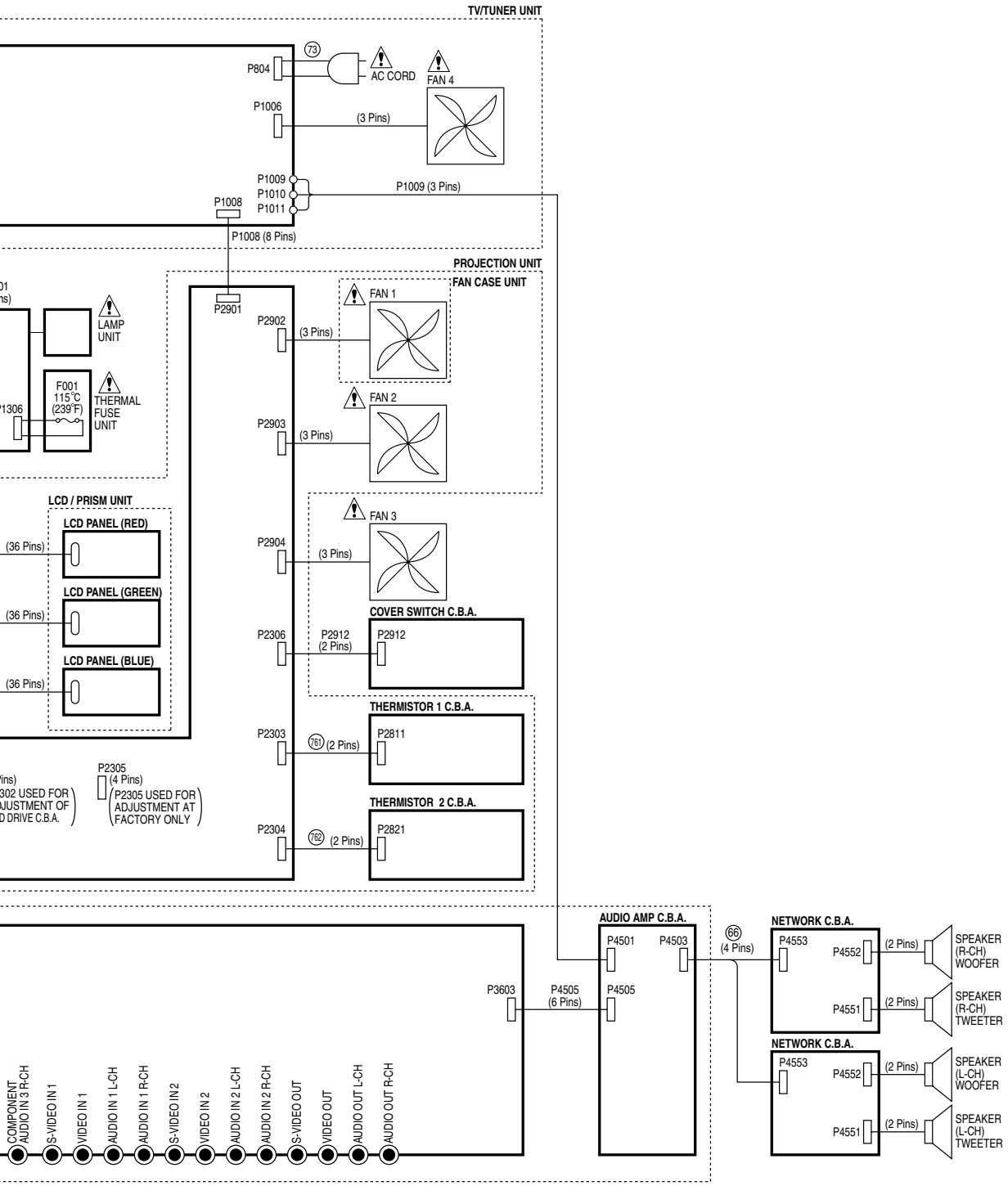
THERMAL FUSE UNIT REPLACEMENT NOTE:
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE NUMBER LSJA0464-FE (115℃).
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME TYPE NUMÉRO LSJA0464-FE (115℃)



RE HAZARD,
0464-FE (115°C).
RISQUES

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

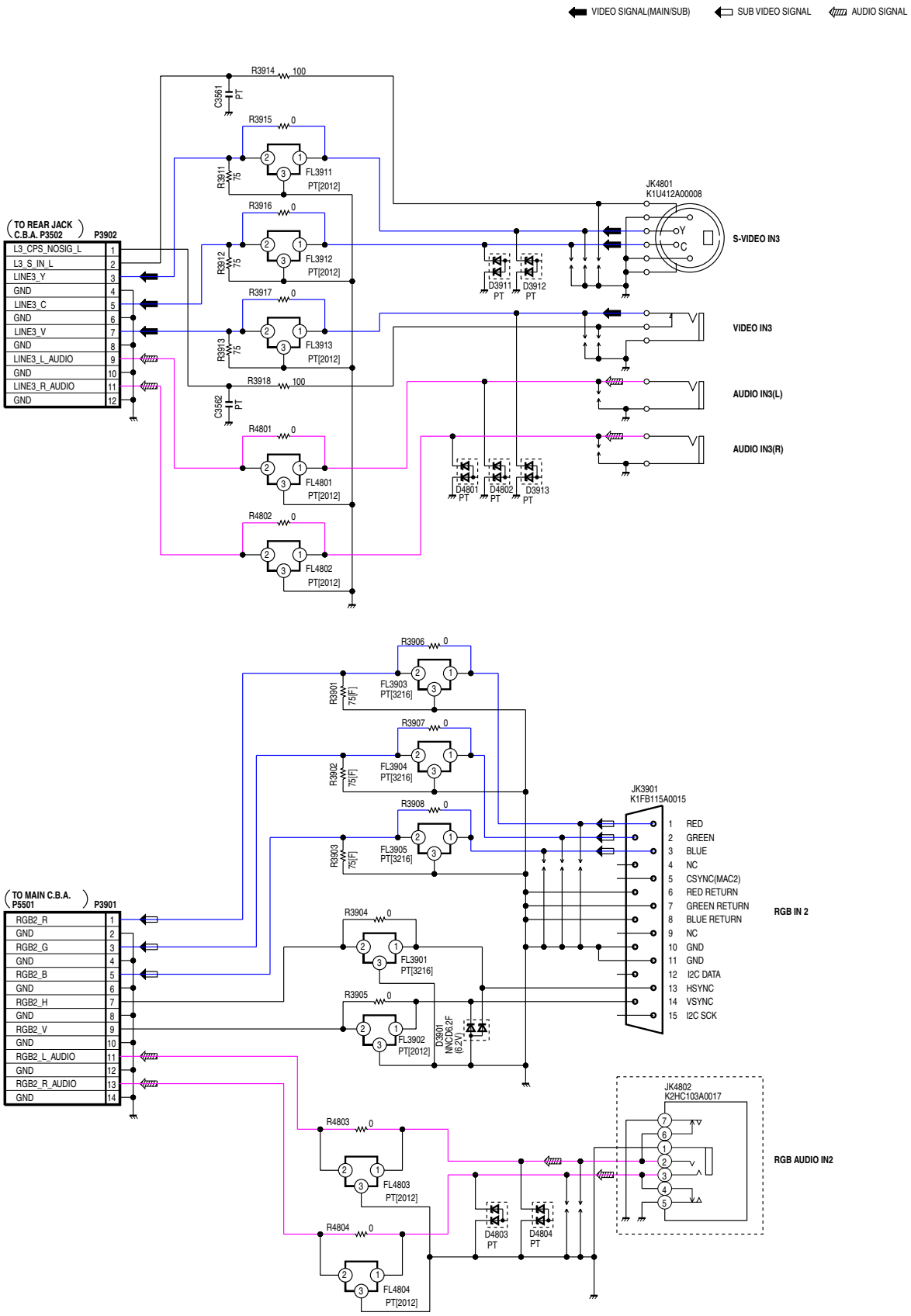
NOTE:
THE LAMP UNIT IS NOT SUPPLIED AS A REPLACEMENT PART. WHEN REPLACING, REPLACE THE LAMP UNIT WHICH IS SUPPLIED AS A OPTIONAL ACCESSORY.



INTERCONNECTION SCHEMATIC DIAGRAM
PT-50LCX63/PT-60LCX63

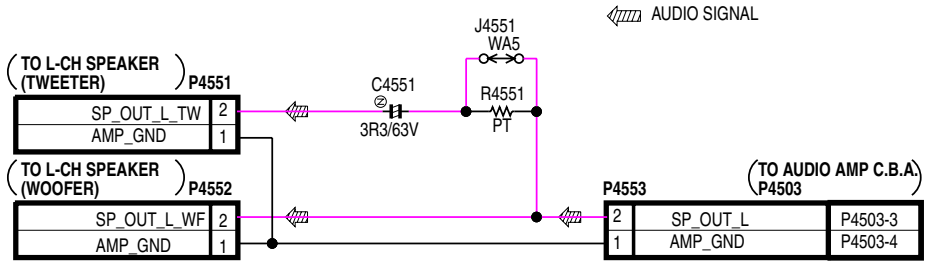
8.3. FRONT JACK SCHEMATIC DIAGRAM

FRONT JACK SCHEMATIC DIAGRAM



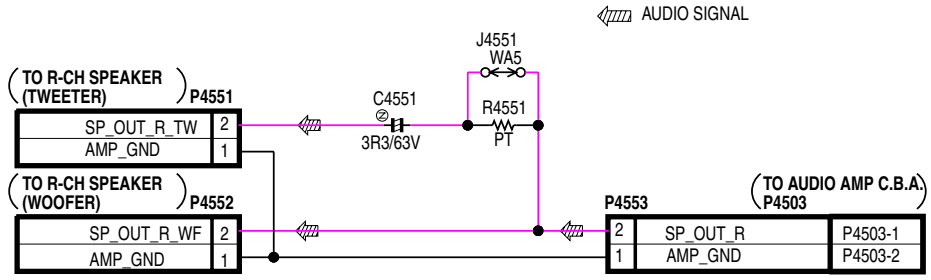
8.4. NETWORK / THERMISTOR 1 / THERMISTOR 2 / OPERATION / COVER SWITC

NETWORK SCHEMATIC DIAGRAM
(FOR L-CH SPEAKER)



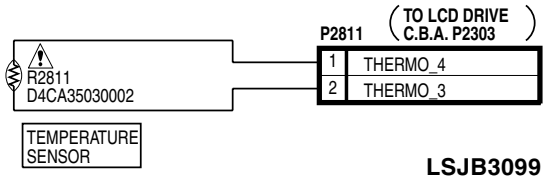
LSJB3097

NETWORK SCHEMATIC DIAGRAM
(FOR R-CH SPEAKER)



LSJB3097

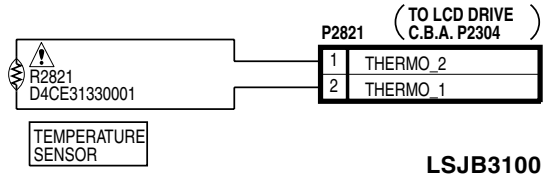
THERMISTOR 1 SCHEMATIC DIAGRAM



LSJB3099

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

THERMISTOR 2 SCHEMATIC DIAGRAM



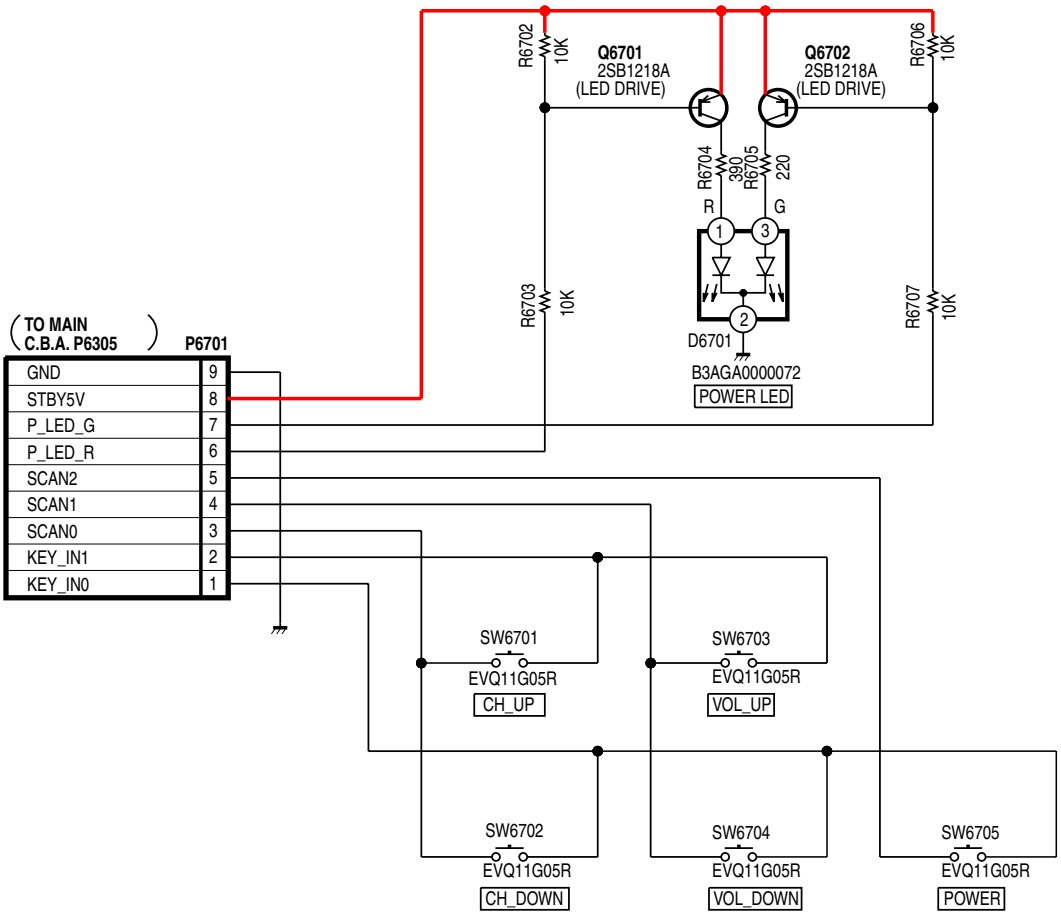
LSJB3100

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

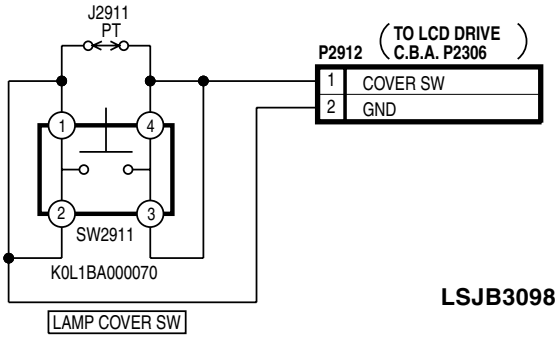
NOTE:
PARTS MARKED "PT" ARE NOT USED.

OPERATION SCHEMATIC DIAGRAM



LSJB3096

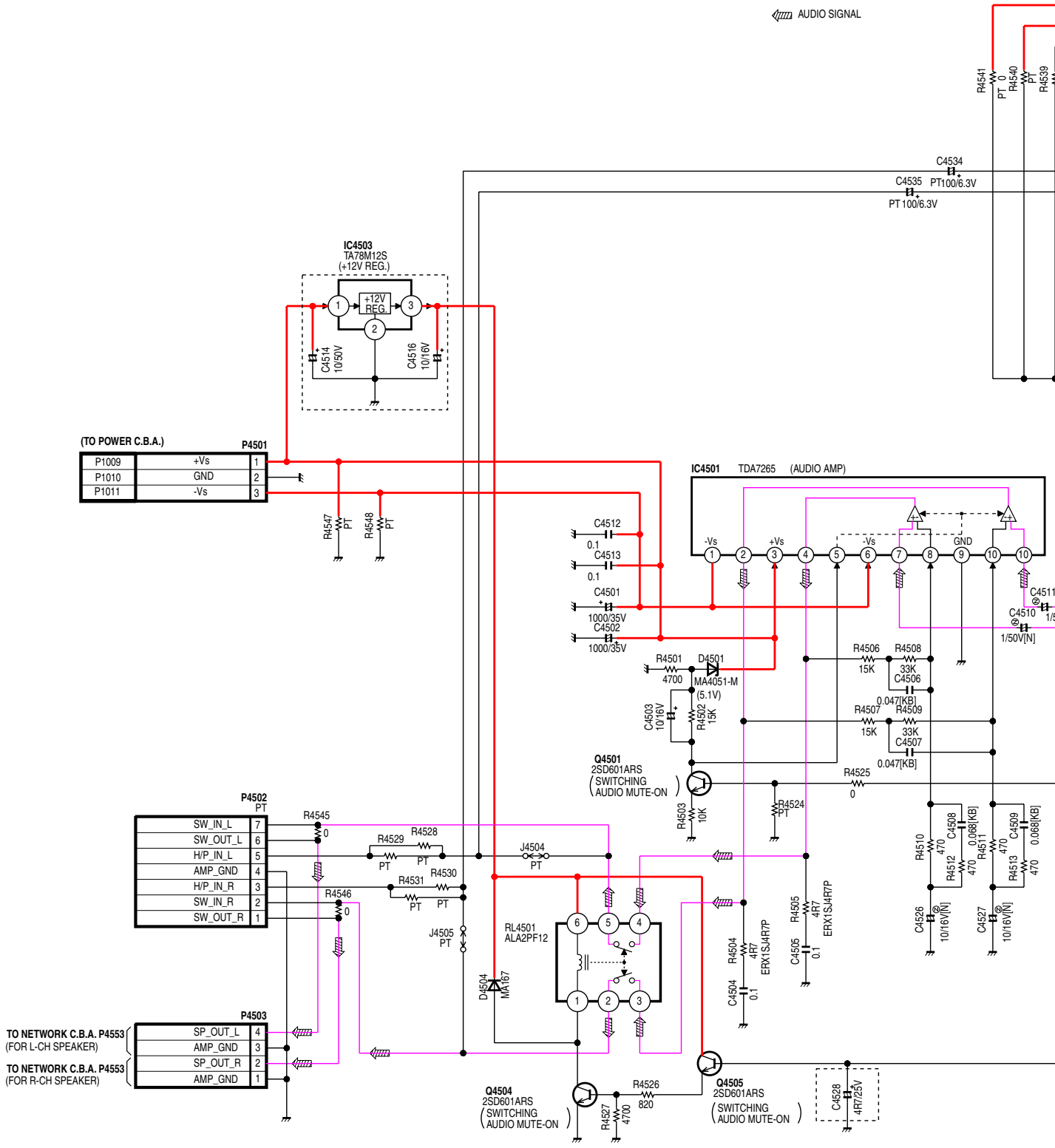
COVER SWITCH SCHEMATIC DIAGRAM



LSJB3098

NETWORK SCHEMATIC DIAGRAM
THERMISTOR 1 SCHEMATIC DIAGRAM
THERMISTOR 2 SCHEMATIC DIAGRAM
OPERATION SCHEMATIC DIAGRAM
COVER SWITCH SCHEMATIC DIAGRAM
PT-50LCX63/PT-60LCX63

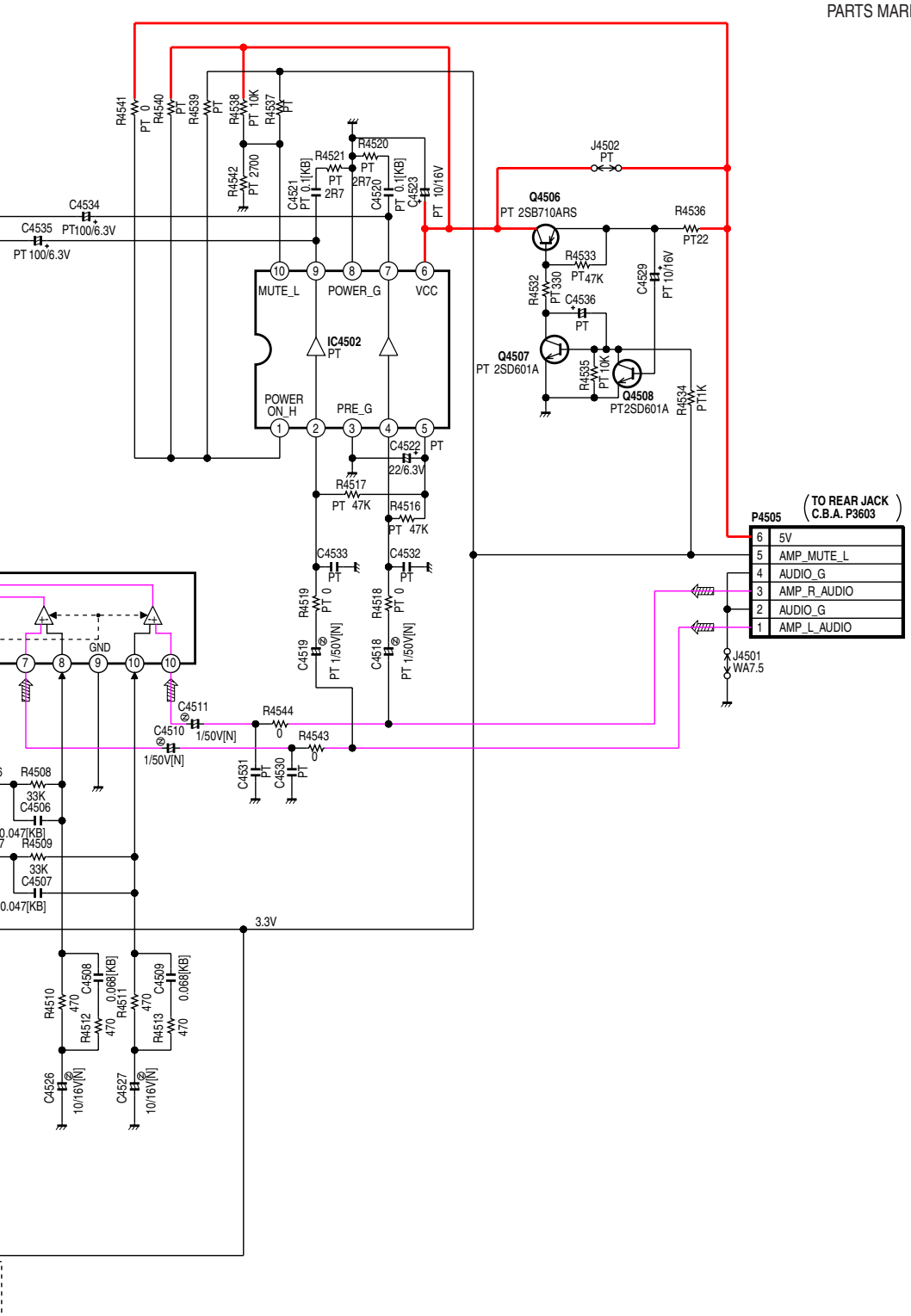
AUDIO AMP SCHEMATIC DIAGRAM



NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS MARKED "PT" ARE NOT USED.



VOLTAGE CHART

PIN NO.	VOLTAGE
IC4501	
1	-19.2
2	0
3	19.2
4	0
5	15.0
6	-19.2
7	0
8	0
9	0
10	0
11	0
IC4503	
1	19.2
2	0
3	12.0
Q4501	
E	0
C	15.0
B	0
Q4504	
E	0
C	12.0
B	0
Q4505	
E	0
C	12.0
B	0

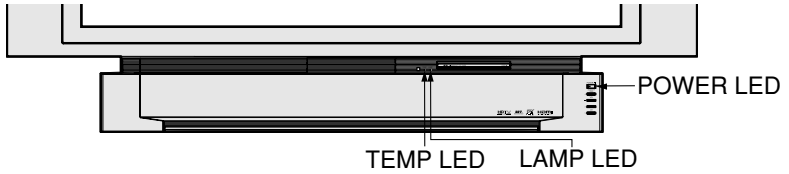
LSJB3092
AUDIO AMP SCHEMATIC DIAGRAM
PT-50LCX63/PT-60LCX63

LED INDICATIONS FOR ERROR CONDITION

Each LED indication facilitates finding the cause of the error.

When an error is detected, each LED on the front will light up or flash when the AC Cord is plugged in.

The detected error data will not be stored in the EEPROM. This data is cleared when the AC Cord is unplugged.



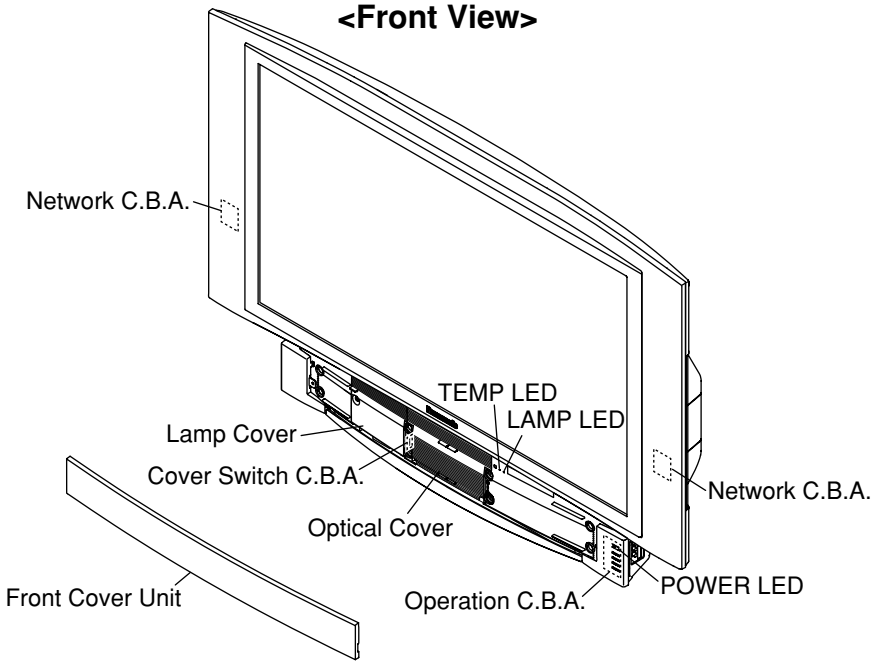
Error No.	Error Information	ERROR DESCRIPTION	POWER LED	TEMP LED	LAMP LED	OSD (Note 3)	LAMP OFF (Note 4)
1)	**Fan1, Fan2 or Fan3 stopped**	IC6302(pin6) detects the stop of FAN1, FAN2 or FAN3, then indicates the error when the FAN1, FAN2 or FAN3 is stopped.	flashes orange once every 5 seconds	-	-		○
2)	**Lamp Cover open**	IC6003(pin66) detects the Lamp Cover condition (open or close), then indicates the error when the Lamp Cover is open.	flashes orange twice every 5 seconds	-	-		○
3)	**Temperature Sensor shorted or open**	IC6302(pin4 and 5) detects open or short of the Temperature Sensor (R2811) on Thermistor 1 C.B.A., then indicates the error when Temperature Sensor is open or shorted. (The error is not detected for 1 minute after Lamp ON.)	-	flashes once every 5 seconds	-		○
4)	**Abnormal Temperature**	IC6302(pin4 and 5) detects the temperature near the FAN1 by the Temperature Sensor (R2811) on Thermistor 1 C.B.A., then indicates the error when the temperature exceeds 55℃ (131℉). (The error is not detected for 1 minute after Lamp ON.)	-	flashes twice every 5 seconds	-		○
5)	**Ballast Error (abnormal Lamp)**	IC6003(pin19) detects the error of the Lamp, and Ballast C.B.A., then indicates the error when an inner malfunction of Ballast C.B.A. occurs, the Lamp voltage becomes more than 130V or less than 30V, the Lamp is cracked, the Thermal Fuse Unit is open or the Lamp is not cooled off.	(flashes green for 140 seconds.) ↓ flashes red	-	flashes once every 5 seconds		○
6)	**Ballast Error (abnormal Lamp voltage)**	IC6003(pin19) detects the error of the Lamp, then indicates the error when the Lamp is defective.	(flashes green for 140 seconds.) ↓ flashes red	-	flashes twice every 5 seconds		○
7)	**Ballast Error (abnormal temperature)**	IC6003(pin19) detects the error of Ballast C.B.A., then indicates the error when the thermal fuse (F1302) 117℃ (243℉) in Ballast C.B.A. is open.	(flashes green for 140 seconds.) ↓ flashes red	-	flashes 3 times every 5 seconds		○
8)	**Ballast Error (other causes)**	IC6003(pin19) detects the error of Ballast C.B.A., then indicates the error when an inner malfunction of Ballast C.B.A. occurs.	(flashes green for 140 seconds.) ↓ flashes red	-	flashes 4 times every 5 seconds		○
9)	**Abnormal Voltage on 33 V line of Main C.B.A.**	IC6302(pin61) detects +33V line voltage on Main C.B.A., then indicates the error when the voltage becomes less than +10V.	flashes orange 5 times every 5 seconds	flashes once every 5 seconds	flashes once every 5 seconds		○
10)	**Abnormal Voltage on 9 V line of Main C.B.A.**	IC6302(pin64) detects +9V line voltage on Main C.B.A., then indicates the error when the voltage becomes less than +2V.	flashes orange 6 times every 5 seconds	flashes twice every 5 seconds	flashes twice every 5 seconds		○
11)	**Abnormal Voltage on 5 V line of Main C.B.A.**	IC6302(pin63) detects +5V line voltage on Main C.B.A., then indicates the error when the voltage becomes less than +1V.	flashes orange 7 times every 5 seconds	flashes 3 times every 5 seconds	flashes 3 times every 5 seconds		○
12)	**Abnormal Voltage on 3.3 V line of Main C.B.A.**	IC6302(pin7) detects +3.3V line voltage on Main C.B.A., then indicates the error when the voltage becomes less than +1.5V.	flashes orange 8 times every 5 seconds	flashes 4 times every 5 seconds	flashes 4 times every 5 seconds		○
13)	**Abnormal Voltage on -5 V line of Main C.B.A.**	IC6302(pin62) detects -5V line voltage on Main C.B.A., then indicates the error when the voltage becomes more than 0V.	flashes orange 9 times every 5 seconds	flashes 5 times every 5 seconds	flashes 5 times every 5 seconds		○
14)	**Abnormal Voltage on 6.5 V line of Main C.B.A.**	IC6302(pin60) detects +6.5V line voltage on Main C.B.A., then indicates the error when the voltage becomes less than +2V.	flashes orange 10 times every 5 seconds	flashes 6 times every 5 seconds	flashes 6 times every 5 seconds		○
15)	**Temperature Sensor shorted or open**	IC6302(pin2 and 3) detects open or short of the Temperature Sensor (R2821) on Thermistor 2 C.B.A., then indicates the error when Temperature Sensor is open or shorted. (The error is not detected for 4 minutes after Lamp ON.)	-	flashes 3 times every 5 seconds	-		○
16)	**Abnormal Temperature**	IC6302(pin2 and 3) detects the temperature near the Lamp by the Temperature Sensor (R2821) on Thermistor 2 C.B.A., then indicates the error when the temperature exceeds 85℃ (185℉). (The error is not detected for 4 minutes after Lamp ON.)	-	flashes 4 times every 5 seconds	-		○
17)	**Clogged air filter**	IC6003(pin65) detects clogged air filter when the filter detection value exceeds the standard value.	-	flashes 5 times every 5 seconds	-	○	○
18)	**DTV Tuner Power Error**	Corresponding between the DTV Tuner Unit and IC6003 on the Main C.B.A. becomes defective because of power supply error to the DTV Tuner unit.	flashes green all the time	-	-		○
-	**Request for Lamp Replacement**	When accumulated Lamp operation time reaches 10,000 hours, OSD (replacing the Lamp) appears on the screen. Note: The Lamp time is stored in EEPROM (IC6005).	-	-	lights up	○	
-	**Forced cooling**	Indicated during forced cooling.	flashes red for 10 minutes	-	flashes 5 times every 5 seconds		

Note:

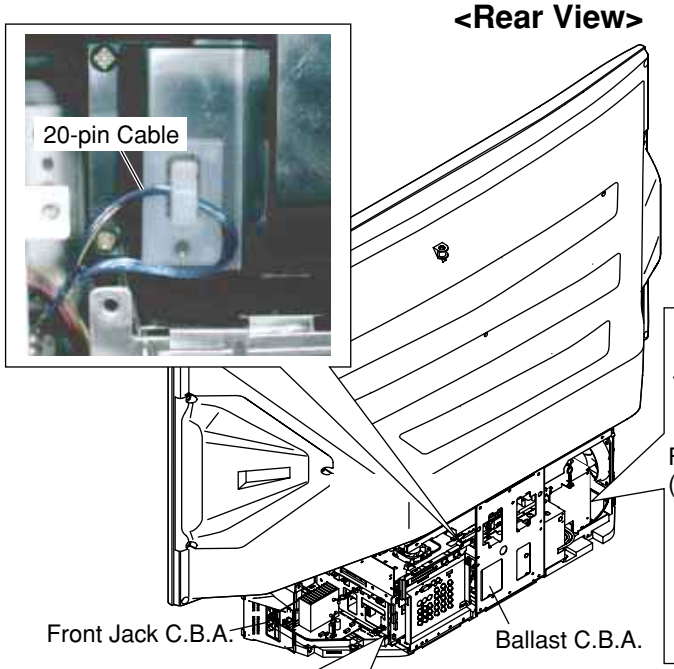
1. When any of the above errors has occurred, the LED will flash as shown above.
2. When two or more errors have occurred at the same time, the LED will alternate light up and/or flash patterns as shown above every 5 seconds.
3. Warning OSD appears when the air filter is clogged or accumulated Lamp operation time reaches 10,000 hours.
4. LAMP OFF: The LED will flash immediately after the Lamp comes off.
5. IC6003 and IC6302 are mounted on the Main C.B.A.

MAIN PARTS LOCATION

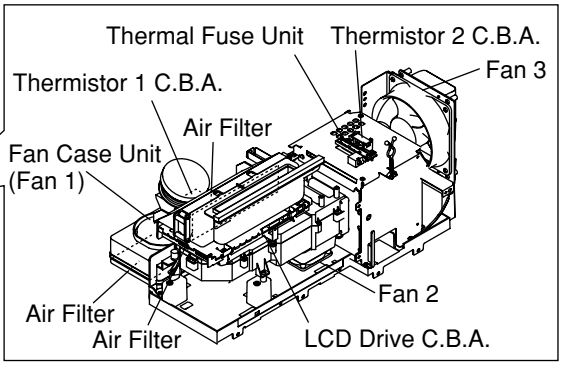
<Front View>

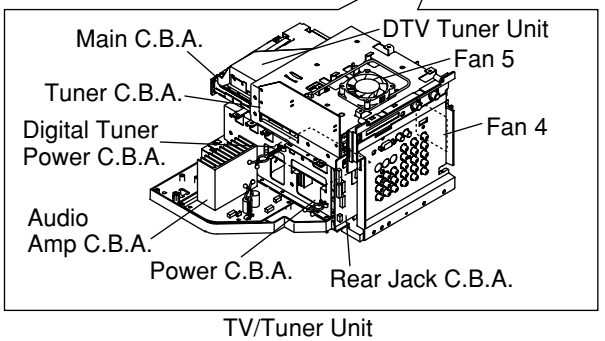


<Rear View>

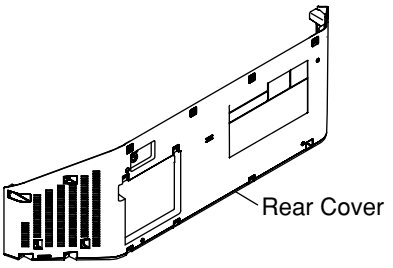


Projection Unit





TV/Tuner Unit



SERVICE MODE

In this mode, the following information can be confirmed on the screen:

Service Mode (1/3)
- Total Lamp elapsed time
- Current Lamp elapsed time
- The number of Lamp ON **(For reference only)**
- BKSV number read-out

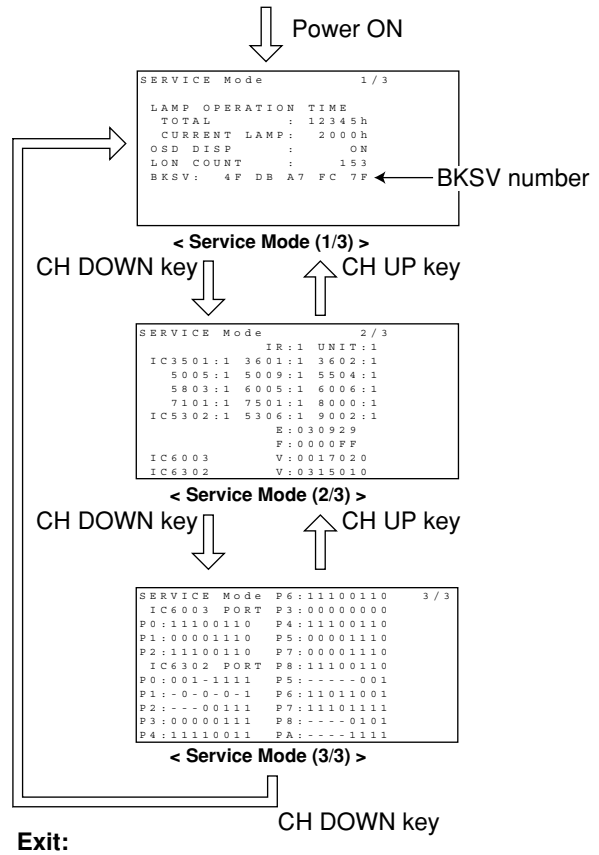
Service Mode (2/3)
- Key detection check
- Communication check for IIC bus on the Main C.B.A.
- Communication check for serial bus on the Main C.B.A.
- EEPROM IC6006 version and build version (**For reference only**)
- EEPROM IC6306 version and build version (**For reference only**)
- IC6003 software version and build version (**For reference only**)
- IC6302 software version and build version (**For reference only**)

Service Mode (3/3)
- IC6003 Port information
- IC6302 Port information

Note:
IC6003: Main Microcontroller on the Main C.B.A.
IC6302: Sub Microcontroller on the Main C.B.A.

Service Mode Map

Enter :
VOLUME DOWN button + TV/VIDEO key
(on the front) (on the remote)
(for more than 5 seconds in power off condition)



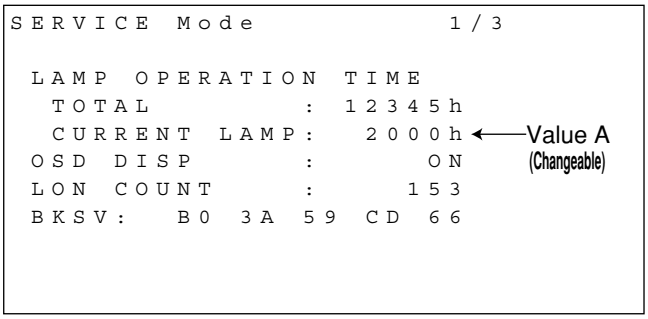
Exit:
Power OFF.
(When turning the power on again after once turning off, wait for approx. 10 seconds. Or, the unit can not be released from Service Mode.)

Fig. 1-1

BEFORE REMOVING THE MAIN C.B.A. OR THE TV/TUNER UNIT FROM THE UNIT AT THE USER'S LOCATION

Note:
The TV/Tuner Unit includes the Main C.B.A.

CAUTION:
1. **Be sure to make a note of the CURRENT LAMP value (value A) in Service Mode (1/3):**



<Service Mode (1/3)>

Fig. 2

LAMP OPERATION TIME is stored in EEPROM on the Main C.B.A. Therefore, before removing the Main C.B.A. or the TV/Tuner Unit at the user's location, make a note of the CURRENT LAMP value (value A) in Service Mode (1/3). Then, after installing the new Main C.B.A. or the TV/Tuner Unit at the user's location, set the CURRENT LAMP value to the original value (value A) in Service Mode.
Otherwise, OSD and LED Lamp replacement indications will be displayed at the wrong time.

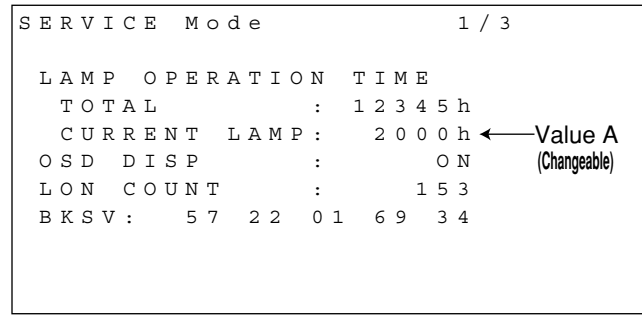
Note:
In case it is impossible to make a note of the CURRENT LAMP value because of a defective Main C.B.A., ask the customer their daily average use and the approximate age of the current Lamp. Then, calculate the CURRENT LAMP value as follows and make a note.

Daily average use (hours)	X	Approx. age (days)	=	**CURRENT LAMP** (hours)

Note:
The TOTAL value can be set to the original value in Service Mode (1/3) by similar method:
Before removing the Main C.B.A. at the user's location, make a note of the TOTAL value in Service Mode (1/3). Then, after installing the new Main C.B.A. at the user's location, set the TOTAL value to the original value in Service Mode.

WHEN REINSTALLING THE MAIN C.B.A. OR THE TV/TUNER UNIT INTO THE UNIT AT THE USER'S LOCATION

CAUTION:
1. Set CURRENT LAMP value to original value as follows.
   1) Select CURRENT LAMP in Service Mode (1/3).
   2) Press the VOLUME UP/DOWN key on the remote to change to the original value (value A) that was noted before removing the Main C.B.A. or the TV/Tuner Unit at the user's location.

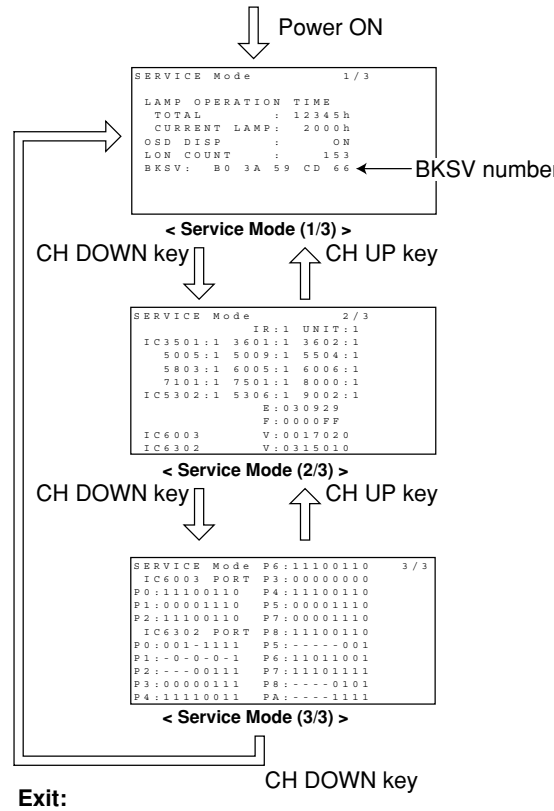


<Service Mode (1/3)>

Fig. 3

Service Mode Map

Enter :
VOLUME DOWN button + TV/VIDEO key
(on the front) (on the remote)
(for more than 5 seconds in power off condition)



Exit:
Power OFF.
(When turning the power on again after once turning off, wait for approx. 10 seconds. Or, the unit can not be released from Service Mode.)

BEFORE REMOVING THE PROJECTION UNIT FROM THE UNIT AT THE USER'S LOCATION

1. When removing the Projection Unit, remove the Lamp from the Projection Unit and keep it. Then, reinstall this Lamp into the new Projection Unit.
2. When removing the Projection Unit, remove the Fan 3 Unit, the Top Duct 3 Unit and the 20-pin Cable from the Projection Unit and keep them. Then, reinstall the Fan 3 Unit, the Top Duct 3 Unit and the 20-pin Cable into the new Projection Unit.

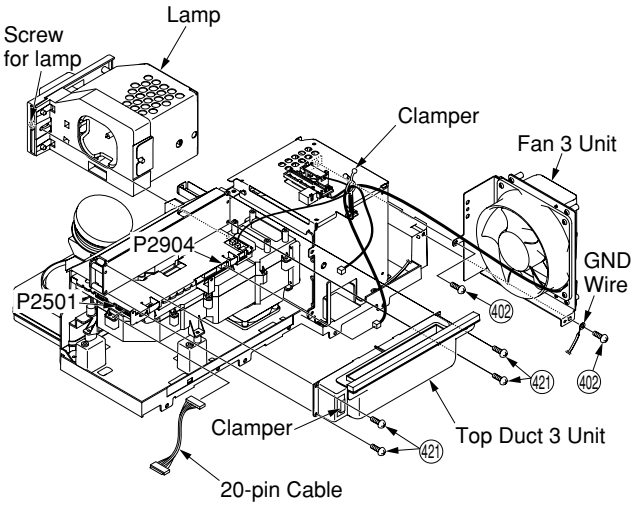


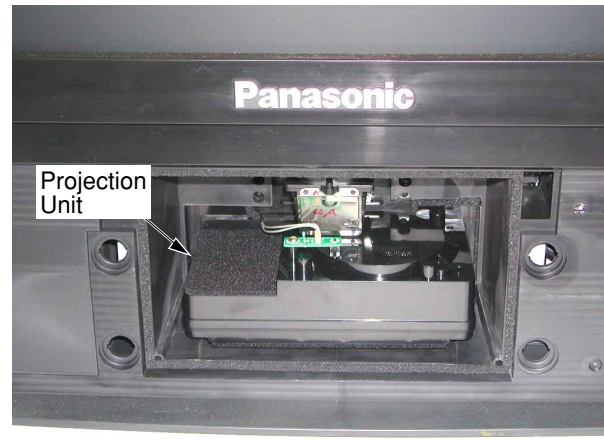
Fig. 4-1

WHEN REINSTALLING THE PROJECTION UNIT INTO THE UNIT AT THE USER'S LOCATION

1. Be sure to install the original Lamp, the Fan 3 Unit, the Top Duct 3 Unit and the 20-pin Cable into the new Projection Unit.
   CAUTION:
   Confirm that there is no dust on the Top Duct 3 Unit before installing. If there is dust, clean the Top Duct 3 Unit with a brush, etc. Otherwise, dust may adhere to the inside of the screen.
2. The following ADJUSTMENT of the Projection Unit must be performed.
   a. Mechanical Picture Position Adjustment (Tilt)
   b. Focus Adjustment
      Note:
      Perform this adjustment only if necessary. (Normally, it will not be necessary.)
   c. Electrical Picture Position Adjustment

Preparation of ADJUSTMENT:

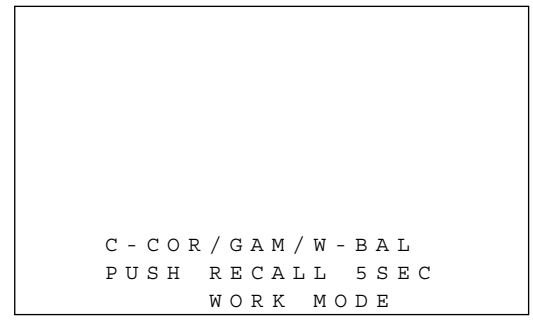
1. Install all parts except the Front Cover Unit and the Optical Cover.



(With Front Cover Unit and Optical Cover removed)
<Front View>

Fig. 4-2

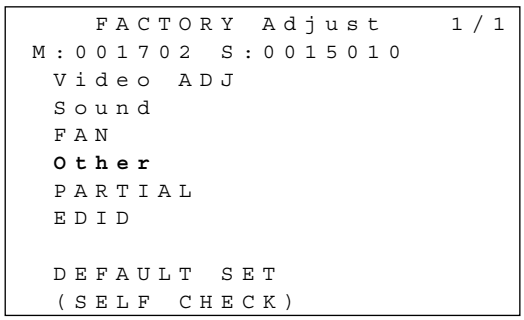
2. Turn the power on.
3. Press and hold the VOLUME DOWN button on the unit and the RECALL key on the remote for more than 5 seconds in power on condition. The unit will go into Work Mode. ("WORK MODE" will appear on the screen.)



<Work Mode>

Fig. 4-3

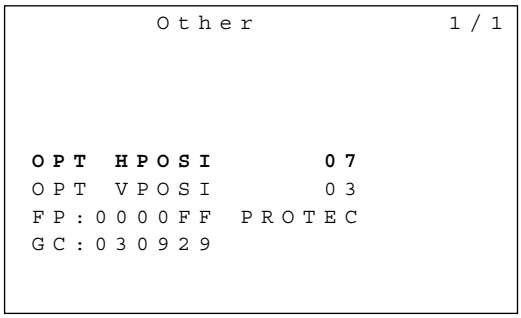
4. 1) Then, press and hold the VOLUME DOWN button on the unit and the MOVE key on the remote for more than 5 seconds. The unit will go into the Factory Adjust Mode. (FACTORY ADJUST menu will appear.)



<Factory Adjust Mode>

Fig. 4-4

2) Then, press the CH UP/DOWN key on the remote to select “Other” on menu and press the OK key. (Other menu will appear.)



<Factory Adjust Mode>
(Other menu 1/1)

Fig. 4-5

5. Press the VOLUME UP/DOWN key on the remote. (Focus screen will appear.)

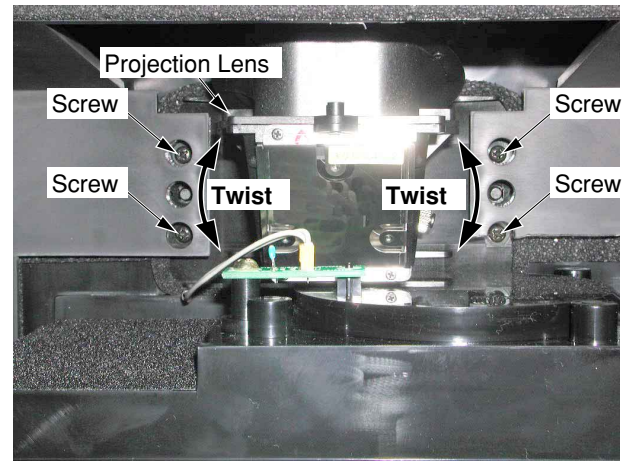
<Focus Screen>

To release this mode:

1. After completing the ADJUSTMENT, press the CH UP/DOWN key on the remote to return to the OTHER menu.
2. Then, press RECALL key twice to return to Work Mode, and press and hold the VOLUME DOWN button on the unit and the RECALL key on the remote for more than 5 seconds. Alternatively, turn off the power.
3. Then, install the Optical Cover with the 2 Screws and the Front Cover Unit.

a. Mechanical Picture Position Adjustment (Tilt)

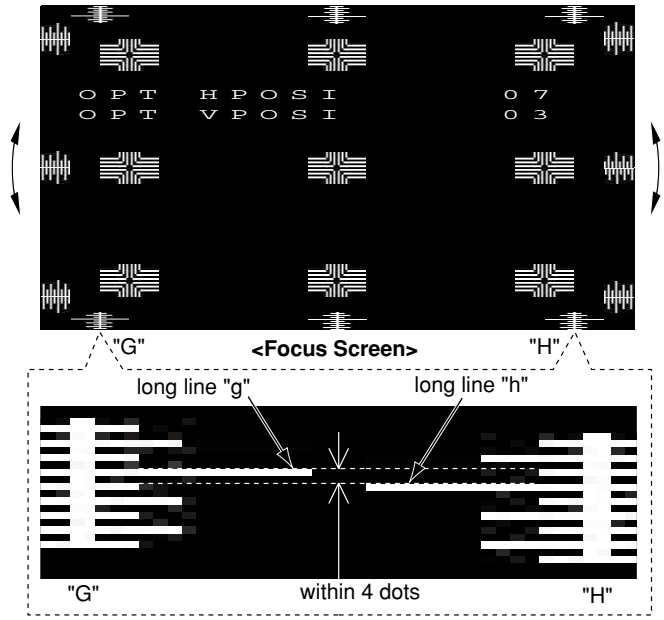
1) Loosen the 4 Screws on the Projection Unit.



<Front View>

Fig. 4-6

2) Adjust the Projection Lens by twisting so that the long line “g” and the long line “h” are within 4 dots. (The long line “g” and the long line “h” will be almost aligned horizontally.)



Note:
If the Projection Lens is twisted left, the Focus Screen twists left.
If the Projection Lens is twisted right, the Focus Screen twists right.

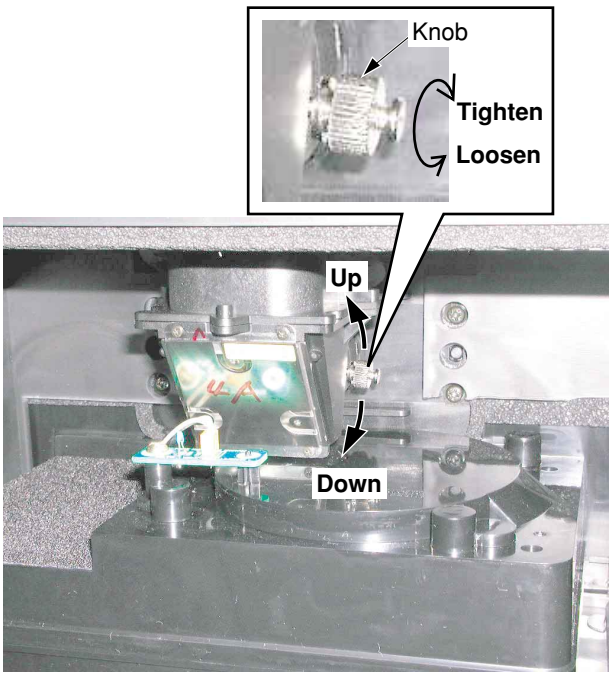
3) Tighten the 4 Screws while fixing the Projection Lens.

b. Focus Adjustment

1) Confirm that each of the pixels in the nine portions is clearly visible.

<Focus Screen>

2) If not, loosen the Knob on the Projection Lens until the Knob can be moved.



<Front View>

Fig. 4-7

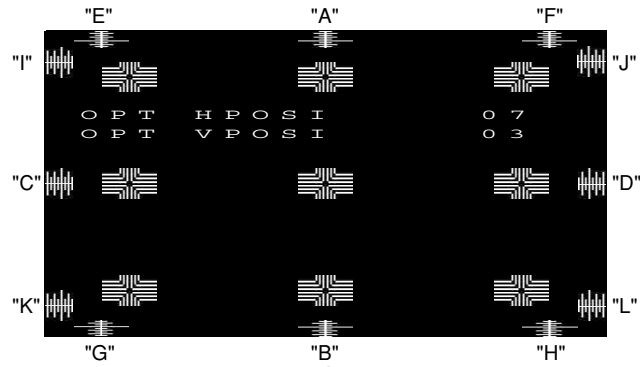
3) Adjust the Knob by moving up or down so that each of the pixels in the nine portions is clearly visible to obtain the best focus.
4) Tighten the Knob.

Note:

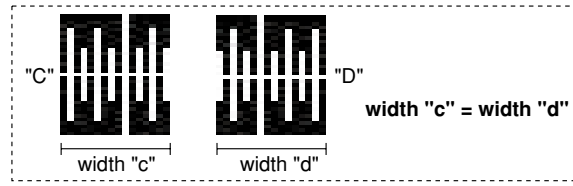
Focus Adjustment is not normally necessary. Perform this adjustment only if necessary.

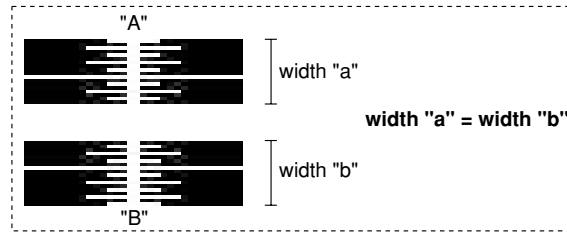
c. Electrical Picture Position Adjustment

1) Adjust OPT HPOSI so that “C” is symmetrical to “D.” by pressing the VOLUME UP/DOWN key on the remote to change the value.
2) Press the CH UP/DOWN key on the remote to return to the Other menu.
3) Select OPT VPOSI by pressing CH UP/DOWN key on the remote.
4) Adjust OPT VPOSI so that “A” is symmetrical to “B” by pressing the VOLUME UP/DOWN key on the remote to change the value.



<Focus Screen>





5) Confirm that all “A”, “B”, “C”, “D”, “E”, “F”, “G”, “H”, “I”, “J”, “K”, “L” are each almost symmetrical.
6) If not, adjust the “OPT HPOSI” and “OPT VPOSI” (repeat steps 1-6) until the picture is in the correct position.
7) Press the CH UP/DOWN key on the remote to return to the Other menu.

RESET USER'S MEMORY FUNCTIONS

Be sure to reset the user's memory:

- After replacing the DTV Tuner Unit (included in the TV/ Tuner Unit)
- If the secret code of V-chip is forgotten.
- When moving the unit to a new location.

1. Turn on the power.
2. Press and hold the VOLUME DOWN button on the unit and the OK key on the remote for more than 5 seconds. When reset is finished, power shuts off automatically (the user's memory is reset).

CLOGGED AIR FILTER DETECTION

When a dirty or clogged air filter is detected, the OSD display appears for 1 minute. And then the Lamp is turned OFF. When this OSD display appears, remove the Projection Unit from rear, and clean the air filters gently on the Projection Unit.

AIR FILTER CLEANING IS RECOMMANDED AT THIS TIME. FIRST TURN THE UNIT OFF.
PLEASE CALL FOR SERVICE.

UNIT WILL BE TURNED OFF AFTER 1 MINUTE.

REPLACEMENT OF LAMP

Lamp Time Reset Procedure:

Be sure to reset the Lamp time to "0" after replacing the Lamp.

1. Plug in the AC Cord, and turn on the power by pressing the POWER button.
2. Press and hold the VOLUME DOWN button on the unit and the PIP key on the remote together for over 5 seconds in power on condition.
   When the reset is finished, the display as shown in Fig. 5-1 appears and the LAMP LED goes out.

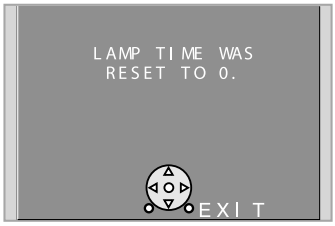


Fig. 5-1

Note:

1. If the Lamp time exceeds 10,000 hours, when turning on the power (Lamp ON), the display as shown in Fig.5-2 appears for about 5 minutes and LAMP LED lights up.

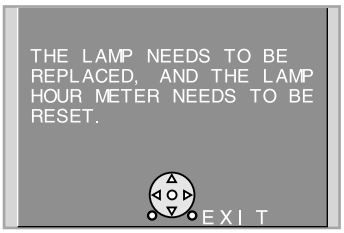


Fig. 5-2

2. Due to variation in the way each lamp is used, the lamp may need to be replaced before the maximum 10,000 hour limit is reached. These variations include the number of times and the duration the lamp is lit, prolonged use in excess of 24 hours, and any mechanical shock the bulb may accidentally experience. In situations where the use of this product is critical we recommend keeping a spare bulb on hand.

WARNING:

The high-pressure lamp may explode if not properly handled. The lamp is hot immediately after use. Touching it directly may cause burns. Please allow the lamp to cool before handling or replacing the lamp unit.

Avoid touching the glass portion of the bulb with your fingers. Natural oils from your skin can cause a "hot spot" to develop, which can cause the bulb to crack when it gets hot. In case the bulb is accidentally touched, the area should be carefully cleaned using isopropyl alcohol and a soft lint free cloth or cotton ball.

Cautions for Lamp Unit Replacement:

- Handle the removed old lamp unit carefully. If handled improperly, it may have a risk of explosion.
- Wear gloves when replacing the lamp unit.
- If replacing the lamp unit becomes necessary during the operation of the TV, follow the procedure below to turn off the power and wait until the lamp unit cools completely.

Lamp Replacement Procedure:

1. Press the POWER button on the remote to turn off the power.
2. Wait for about 1 minute until the cooling fan stops.
   Note:
   The lamp cooling fan will continue to operate for about 1 minute after the power is turned off. Do not unplug the AC Cord from the outlet until the fan has stopped. Avoid interrupting the power by using circuit breakers or switchable power strips.
3. After the cooling fan has stopped, unplug the AC Cord from the outlet.
   Note:
   Please wait more than one hour before replacing the lamp.
   [Forced cooling function]
   If you need to replace the lamp more urgently:
   - **The Projection display has a forced cooling feature. After the POWER button is turned OFF, and sometime during about the first minute of the normal cooling fan operation, press the VOLUME UP button on the unit and CH UP key on the remote at the same time for more than 5 seconds. The cooling fan will operate for about 10 minutes. (LAMP LED will flash 5 times every 5 second and POWER LED will flash red for 10 minutes.)**
4. Remove the Front Cover Unit from the latches.
5. Remove the Lamp Cover by loosening the Screw.

Fig. 5-3

6. Loosen the Screw on the Lamp. Then, pull the Lamp.
   Note:
   Because the Lamp may still be hot, use caution when handling.

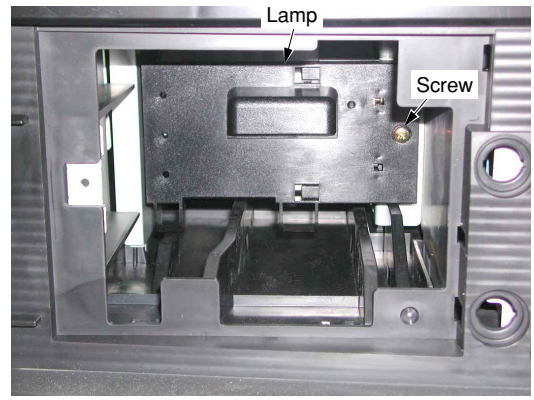


Fig. 5-4

7. Install the new Lamp, and tighten the Screw.
8. Install the Lamp Cover securely, and tighten the Screw.
9. Install the Front Cover Unit.

Note:

After replacing the Lamp, use caution to reset the Lamp time.

CLEANING METHOD

THE SCREEN UNIT AND THE MIRROR

•THE SCREEN UNIT (Lenticular Screen, Fresnel Lens)

The Lenticular Screen surface should be wiped gently with a clean, soft, dry cloth. If the dirt cannot be removed by wiping with a dry cloth, lens cleaner can be used. Wipe evenly so as not to leave any streaks.

Note:

Do not use cleaning materials containing methyl alcohol, acetone, or dichloromethane.

Wipe the surface of the Fresnel Lens with a clean, soft, dry cloth.

•THE MIRROR

Remove any dirt with a compressed air blower or wipe with a clean, soft, dry cloth. If wiped too forcefully, the surface of the Mirror can be damaged. If wiping with a clean, dry cloth does not remove the dirt, the Mirror must be replaced.

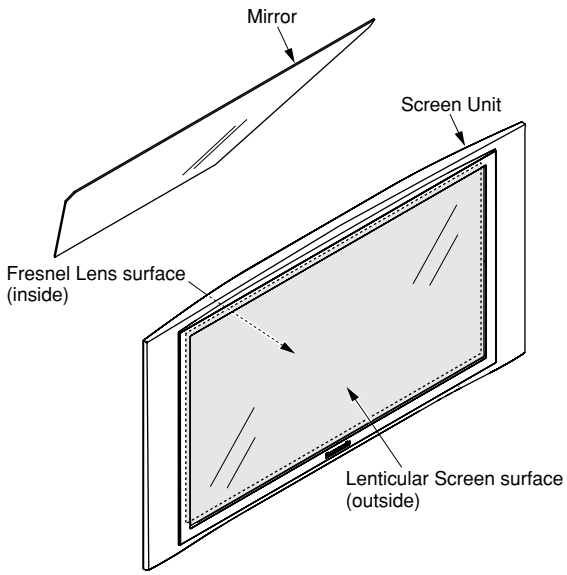


Fig. 6-1

THE LAMP

Gently wipe the surface of the glass of the Lamp with cleaning paper or soft cloth.

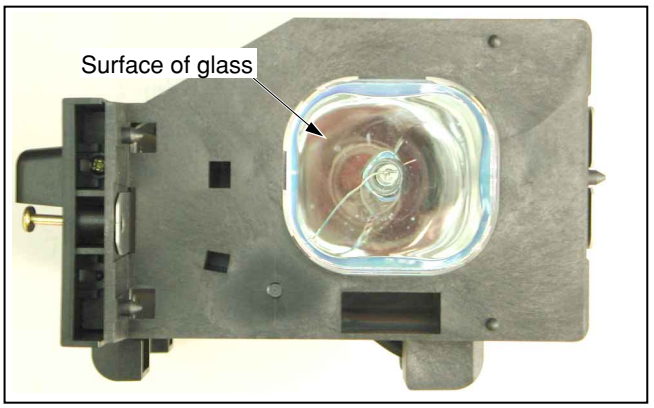


Fig. 6-2

THE FILTER ON THE PROJECTION UNIT

CAUTION:

Operating with torn or damaged Air Filter may cause damage to the Projection unit.

Remove the Projection Unit from rear. Then, clean the filters on the Projection Unit. Gently remove any accumulated dust from filter with a vacuum cleaner.

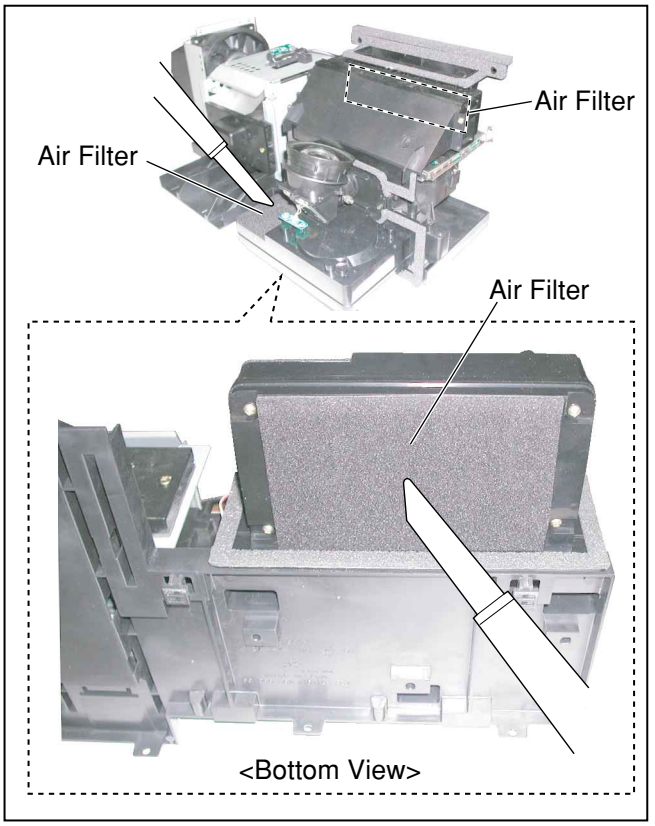


Fig. 6-3

THE PROJECTION LENS

Use lens cleaning paper and cleaner available at your local camera shop, etc. Dampen the cleaning paper with cleaner and gently wipe the surface of the lens from the center outward to remove dust.

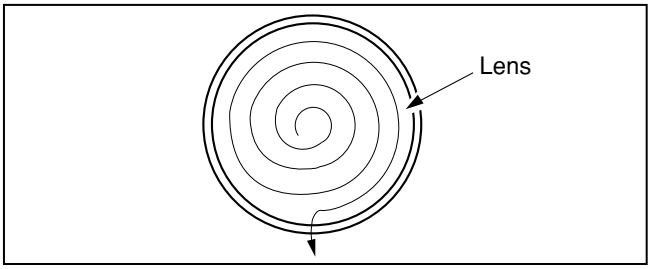


Fig. 6-4

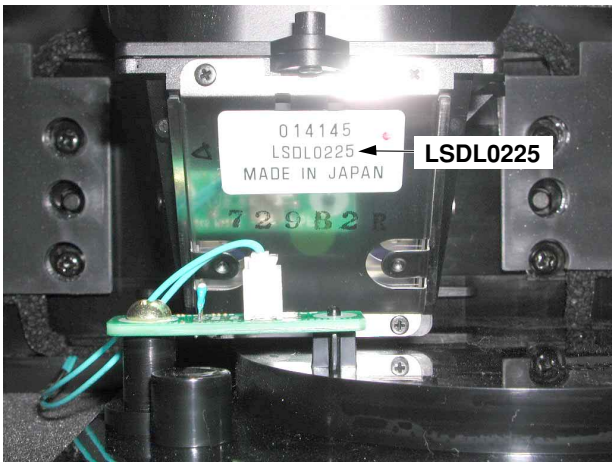
THE POLARIZER UNIT, THE FIELD LENS, THE RELAY LENS, THE CONDENSER LENS, THE DICHROIC MIRROR, THE FULL MIRRORS, THE INTEGRATOR AND THE P/S CONVERTER

Make sure that no dust gets on the optical components such as the Polarizer Unit, the Field Lens, the Relay Lens, the Condenser Lens, the Dichroic Mirror, the Full Mirrors, the Integrator and the P/S Converter. Clean these optical components with cleaning paper moistened with lens cleaner if necessary.

TO DISTINGUISH THE PROJECTION LENS UNIT OR THE PROJECTION UNIT

The only difference between the 50 inch model and the 60 inch model of the Projection Unit is the Projection Lens. To distinguish, see label on the Projection Lens.

50 inch model as shown



<Front View>

LSDL0225 with White label: for 50 inch model
LSDL0248 with Yellowish green label: for 60 inch model

Note:
LSDL0225 and LSDL0248 are not the part numbers of the Projection Lens as a replacement part.

DO NOT UNPLUG AC CORD DURING COOLING OPERATION

The lamp cooling fan will continue to operate for approximately 1 minute after the power is turned off.
At the same time, the POWER LED will flash red.
Do not disconnect the AC Cord from the power outlet and do not open any circuit breakers while the cooling fan is still operating.

HOT CIRCUIT

Primary circuit exists on the Audio Amp C.B.A., the Ballast C.B.A., the Power C.B.A. and the Digital Tuner Power C.B.A. This circuit is identified as "**HOT**" on the C.B.A. and in the Service Manual. Use extreme care to prevent accidental shock when servicing.

MODEL NO. IDENTIFICATION MARK

Use Marks shown in the chart below to distinguish the different models included in this Service Manual.

MODEL	MARK
PT-50LCX63	A
PT-60LCX63	B
NOT USED	PT

Note:
Refer to Item 3 of Schematic Diagram Notes of Schematic Diagram and Circuit Board Layout Notes, for mark "PT."

WIRE AND LEAD POSITION DIAGRAM OF THE UNIT

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

Note: Use extreme care especially for the following.

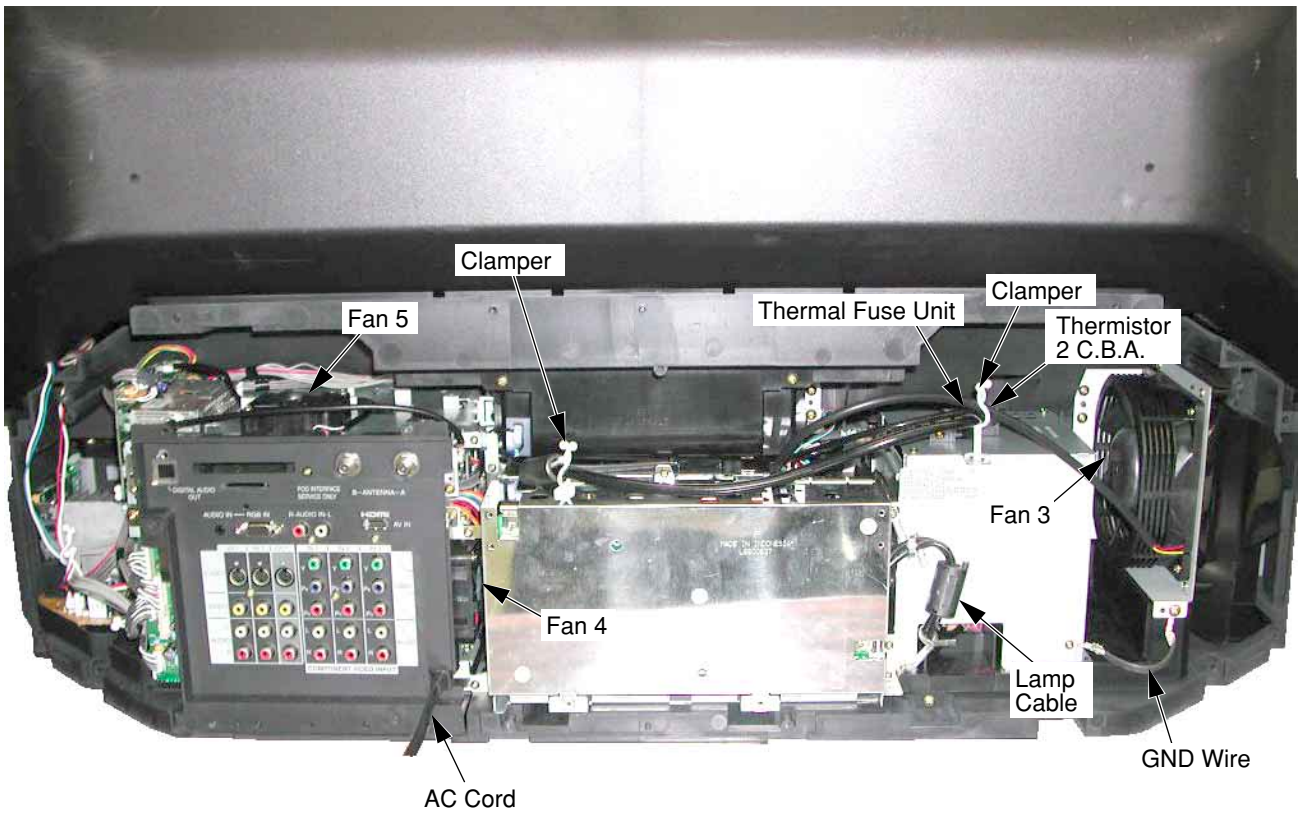


Fig. 9-1

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

Note: Use extreme care especially for the following.

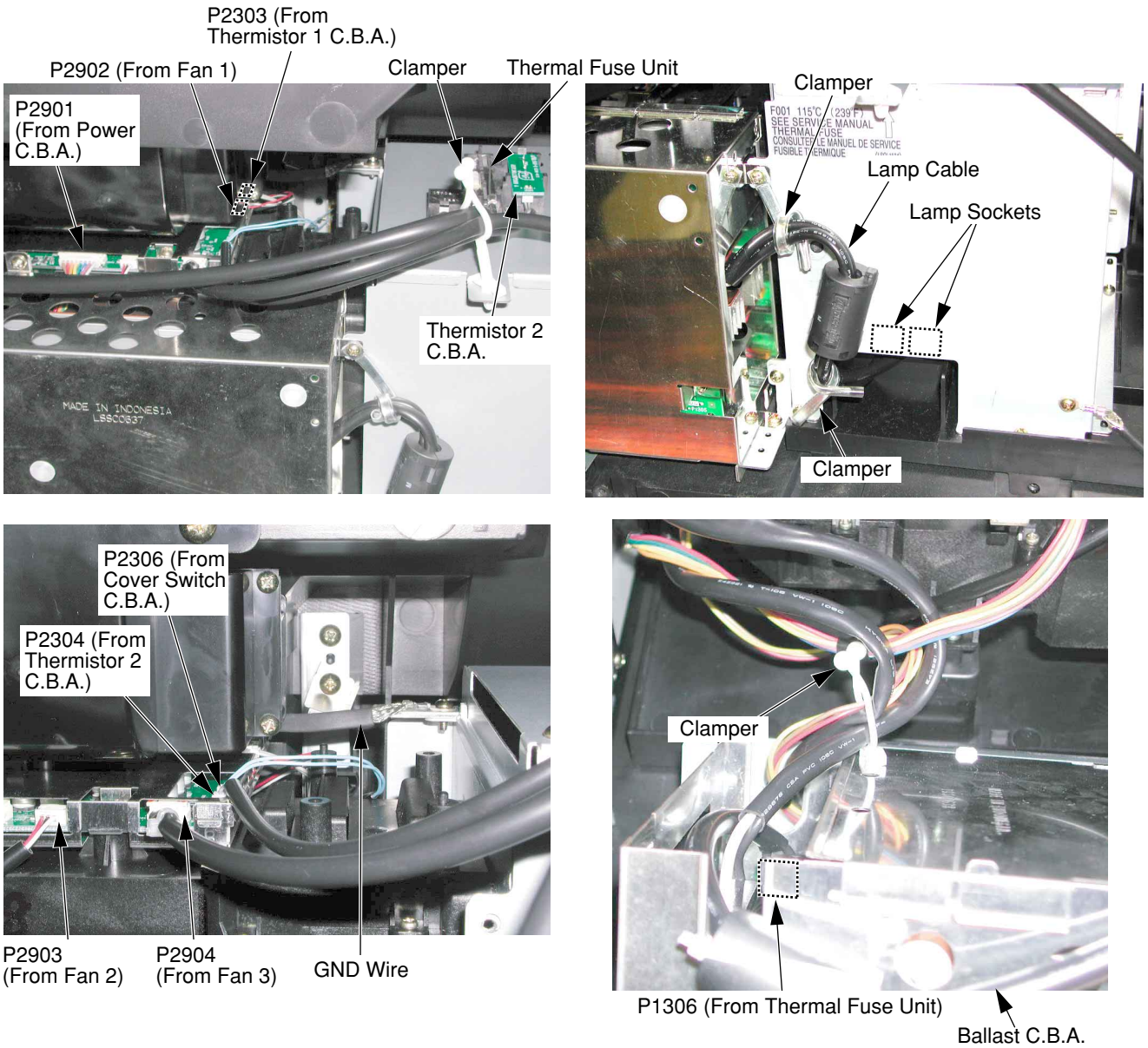


Fig. 9-2

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

Note: Use extreme care especially for the following.

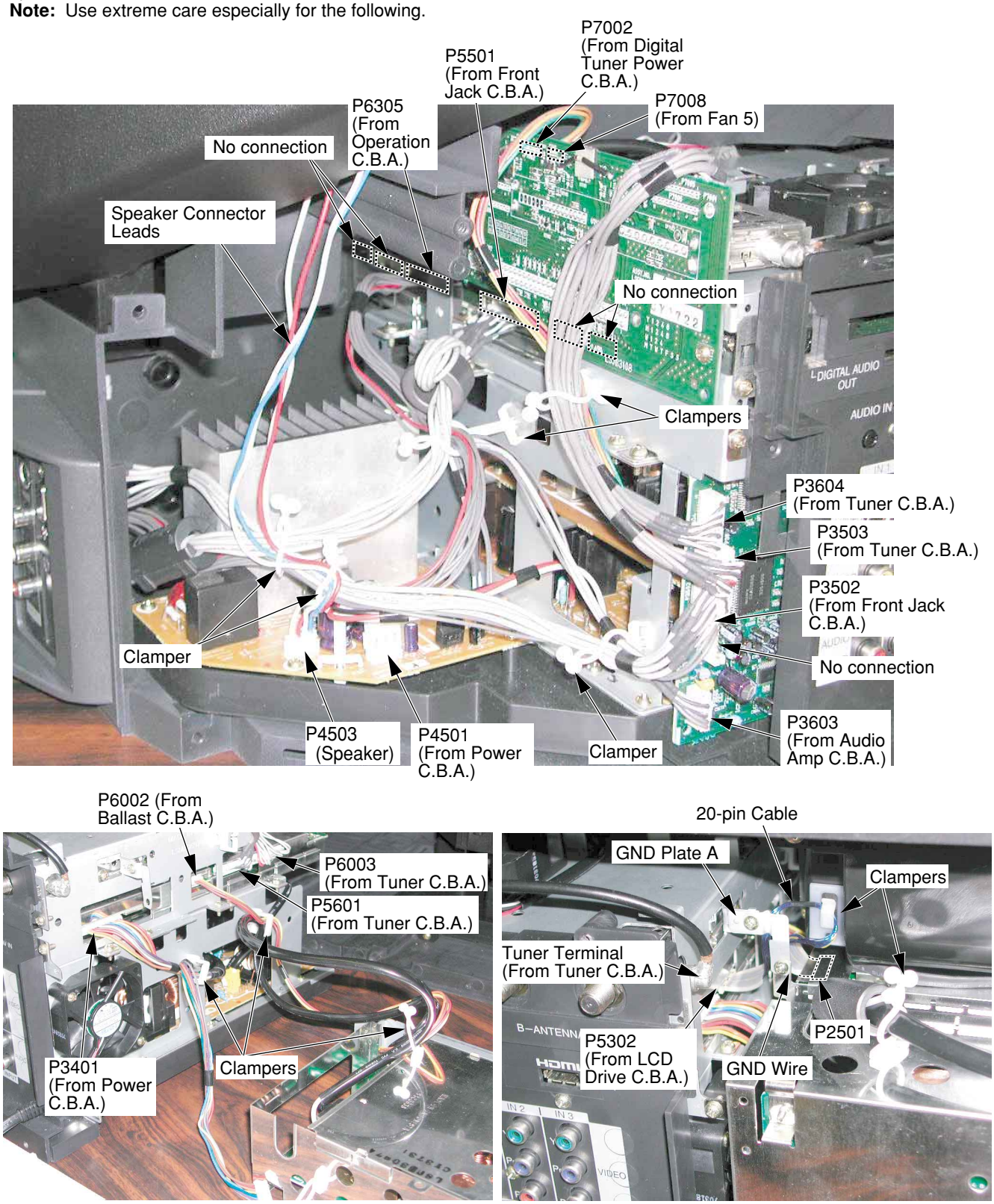


Fig. 9-3

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

Note: Use extreme care especially for the following.

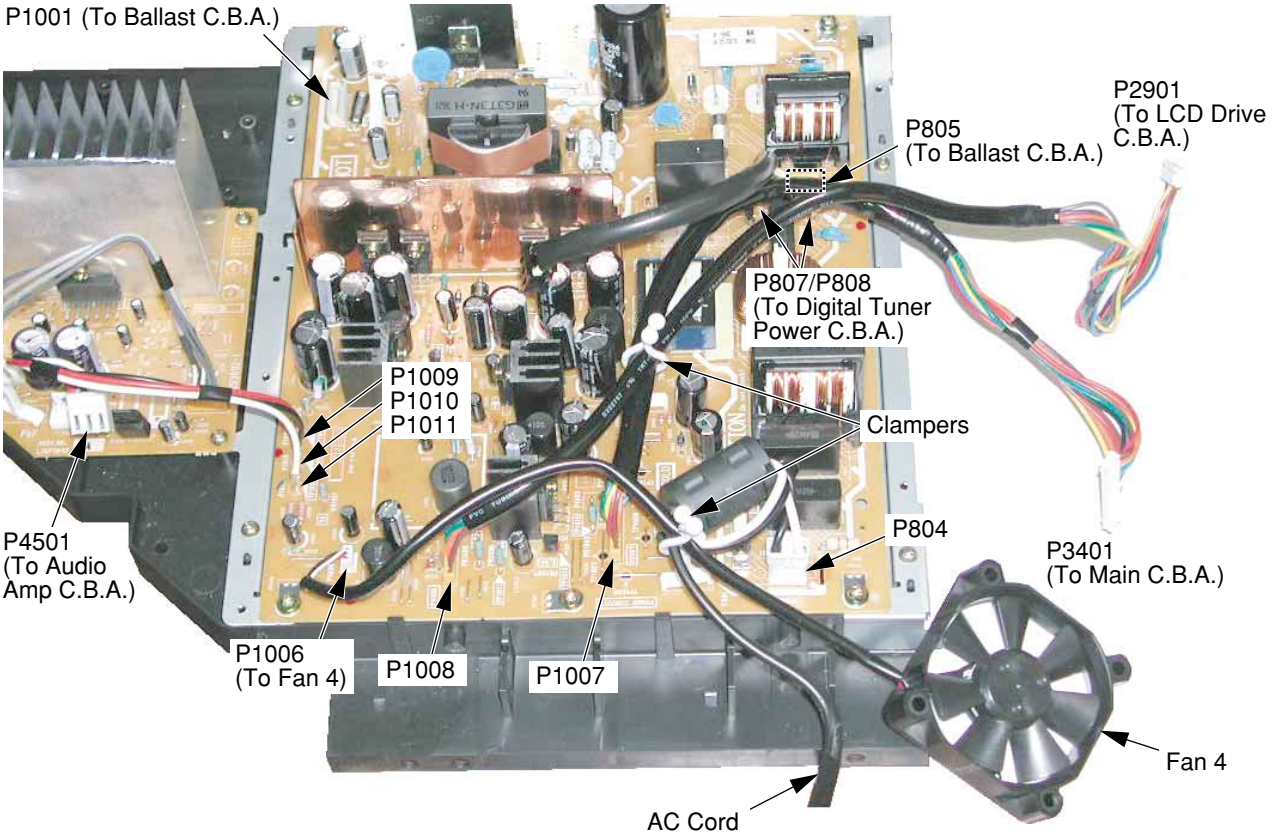


Fig. 9-4

CABINET SECTION

DISASSEMBLY METHOD OF CABINET SECTION

Cabinet section contains following removal procedures:

REMOVAL OF THE BALLAST C.B.A. AND THE TV/TUNER UNIT FROM THE CABINET

REMOVAL OF THE PROJECTION UNIT FROM THE CABINET

REMOVAL OF THE TUNER C.B.A., THE DTV TUNER UNIT, THE MAIN C.B.A., THE DIGITAL TUNER POWER C.B.A., THE REAR JACK C.B.A., THE AUDIO AMP C.B.A., THE POWER C.B.A. FROM THE TV/TUNER UNIT

REMOVAL OF THE SCREEN UNIT AND THE SPEAKER FROM THE DISPLAY

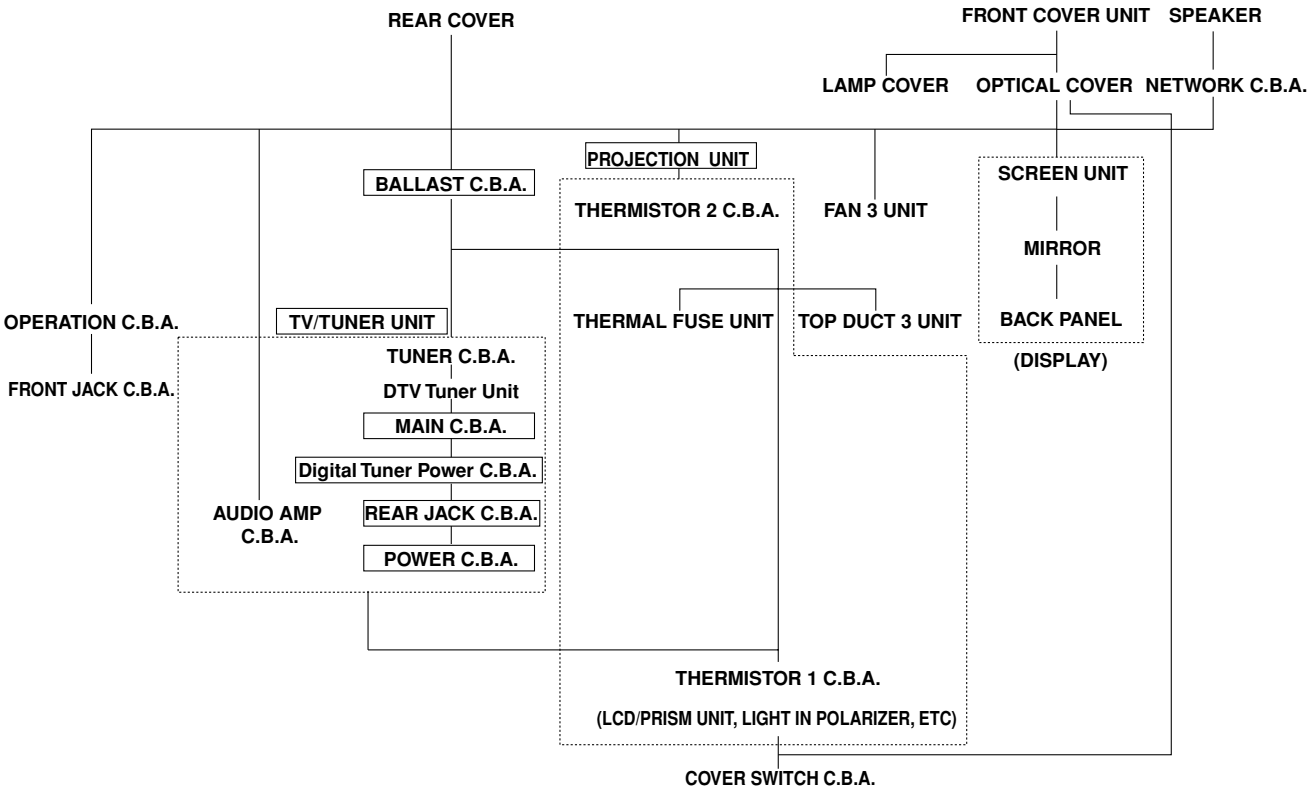
REMOVAL OF THE MIRROR FROM THE BACK COVER

REMOVAL OF THE FRONT JACK C.B.A. AND THE OPERATION C.B.A. FROM THE CABINET

REMOVAL OF THE COVER SWITCH C.B.A. FROM THE CABINET

DISASSEMBLY FLOWCHART

This flow chart indicates the disassembly steps of the cabinet parts and the P.C.Boards in order to gain access to item (s) to be serviced. When reassembling, perform the step (s) in the reverse order. Bend, route and dress the wires as they were originally.



Note :

a. Place a cloth or some other soft material under the P.C. Boards or Unit to prevent damage.
b. When reinstalling, ensure that the connectors are connected firmly and electrical components have not been damaged.
c. Do not supply power to the unit during disassembly and reassembly.

REMOVAL OF THE BALLAST C.B.A. AND THE TV/TUNER UNIT FROM THE CABINET

1. **(PT-50LCX63)**
   Remove the Rear Cover by removing the 18 Screws (401).

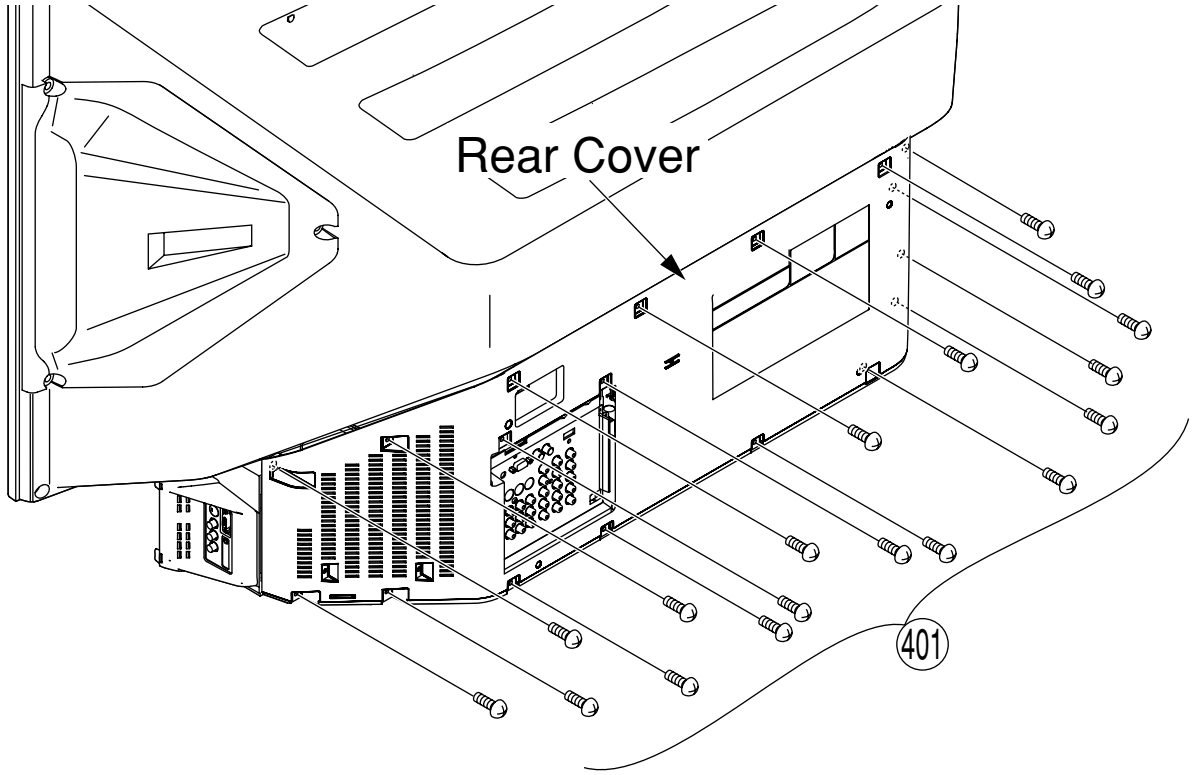


Fig. D1-1-1

(PT-60LCX63)
Remove the Rear Cover by removing the 20 Screws (401, 464).

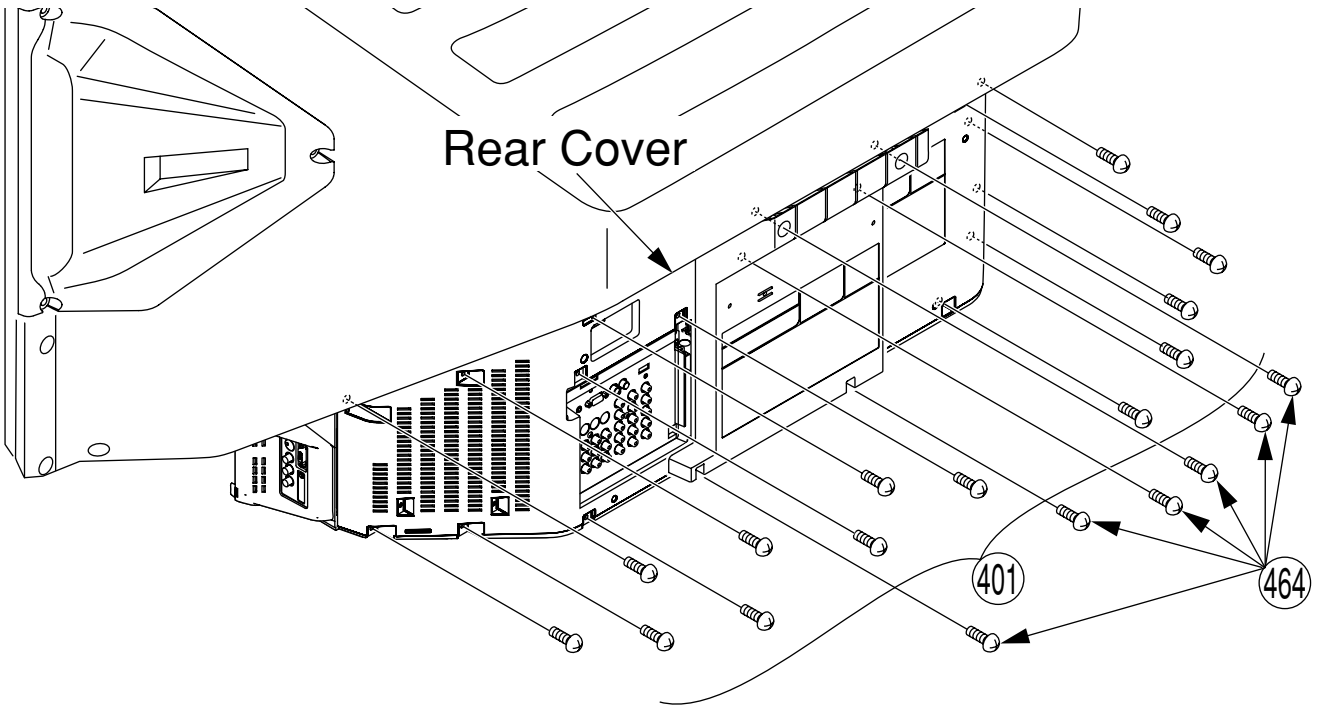


Fig. D1-1-2

2. Remove the Rear Support Plate by removing the 4 Screws (401, 452).

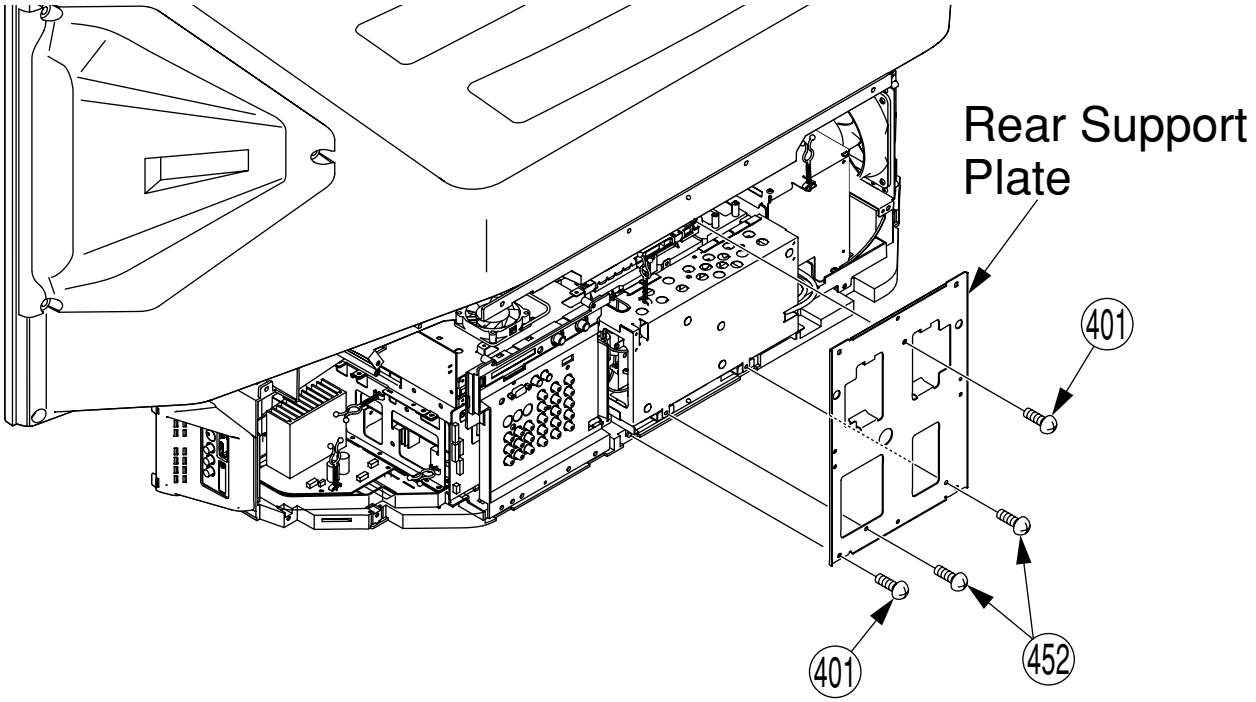


Fig. D1-2

3. 1) Remove the 5 Screws (402) and remove Clamper-1.
   2) Remove the 2 Screws (451) on the Lamp Socket.
   3) Disconnect the Lamp Connector while releasing it from Clamper-2.
   4) Avoiding the Ballast C.B.A., disconnect Connector P1306 (Thermal Fuse Unit) inside of the Ballast C.B.A.
   5) Remove the Clamper from the Ballast C.B.A.

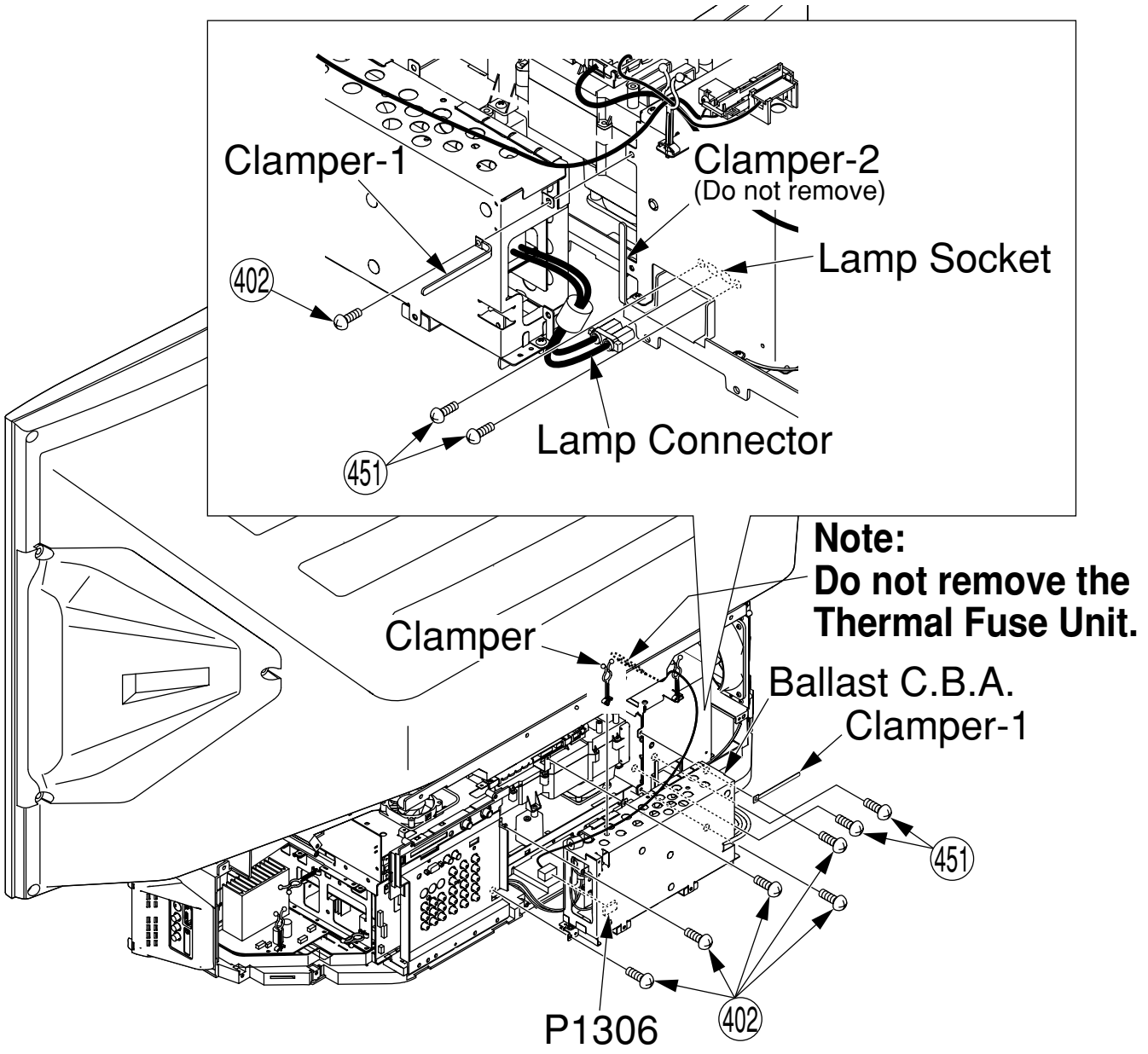


Fig. D1-3

Replacement Note of Ballast C.B.A.:
These parts will be necessary when replacing the Ballast C.B.A. Set aside, and keep and re-use.
- The Clamper on Ballast C.B.A.
- The Thermal Fuse Unit

4. 1) Disconnect Connectors P3502, P5501, P4503, P6305 and release them from the clampers.
   2) Remove the Screw (452) on the GND Wire.
   3) Remove the Screw (401) on the TV/Tuner Ass'y.
   4) Lift up and slide the TV/Tuner Ass'y slightly by releasing the 7 Guide Tabs.
   CAUTION: Do not slide the TV/Tuner Ass'y too much or the 20-pin Cable may be damaged.

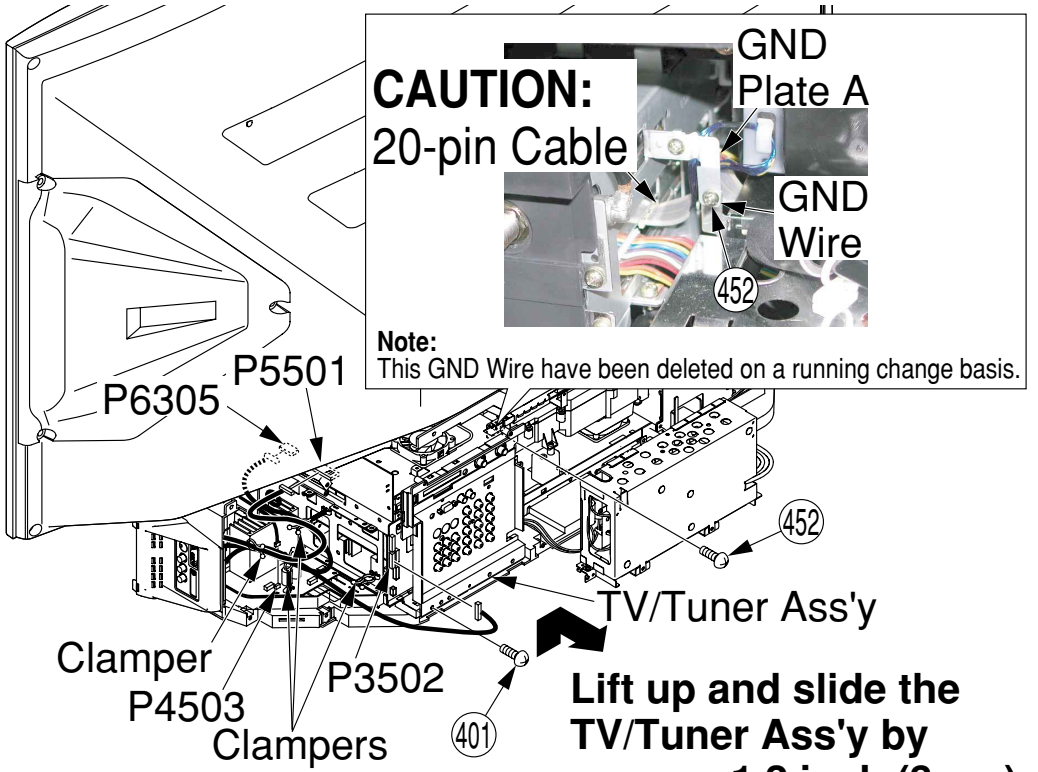
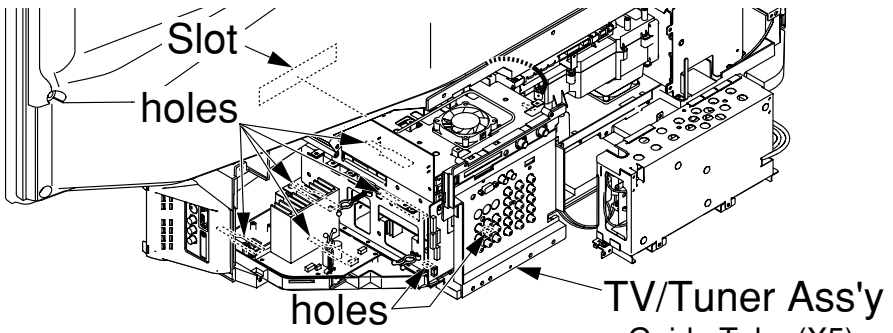
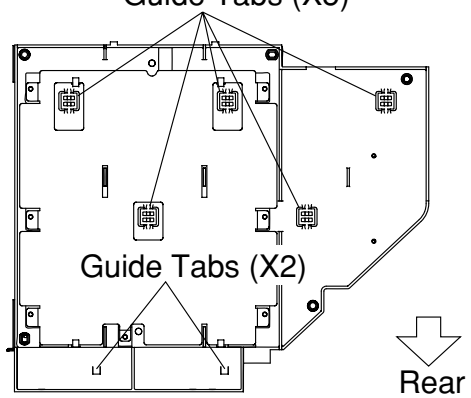


Fig. D1-4



CAUTION:
Lift up and slide the TV/Tuner Ass'y by approx. 1.2 inch (3 cm) to remove the 20-pin Cable. Forced sliding will cause 20-pin Cable to be damaged.



<Bottom View of TV/Tuner Ass'y>

Fig. D1-5

5. 1) Disconnect Connector P2901 and release them from the clamper.
   2) Disconnect Connector P5302 (20-pin Cable) and release it from the clamper.
   CAUTION: Take extreme care not to damage the 20-pin Cable when disconnecting.

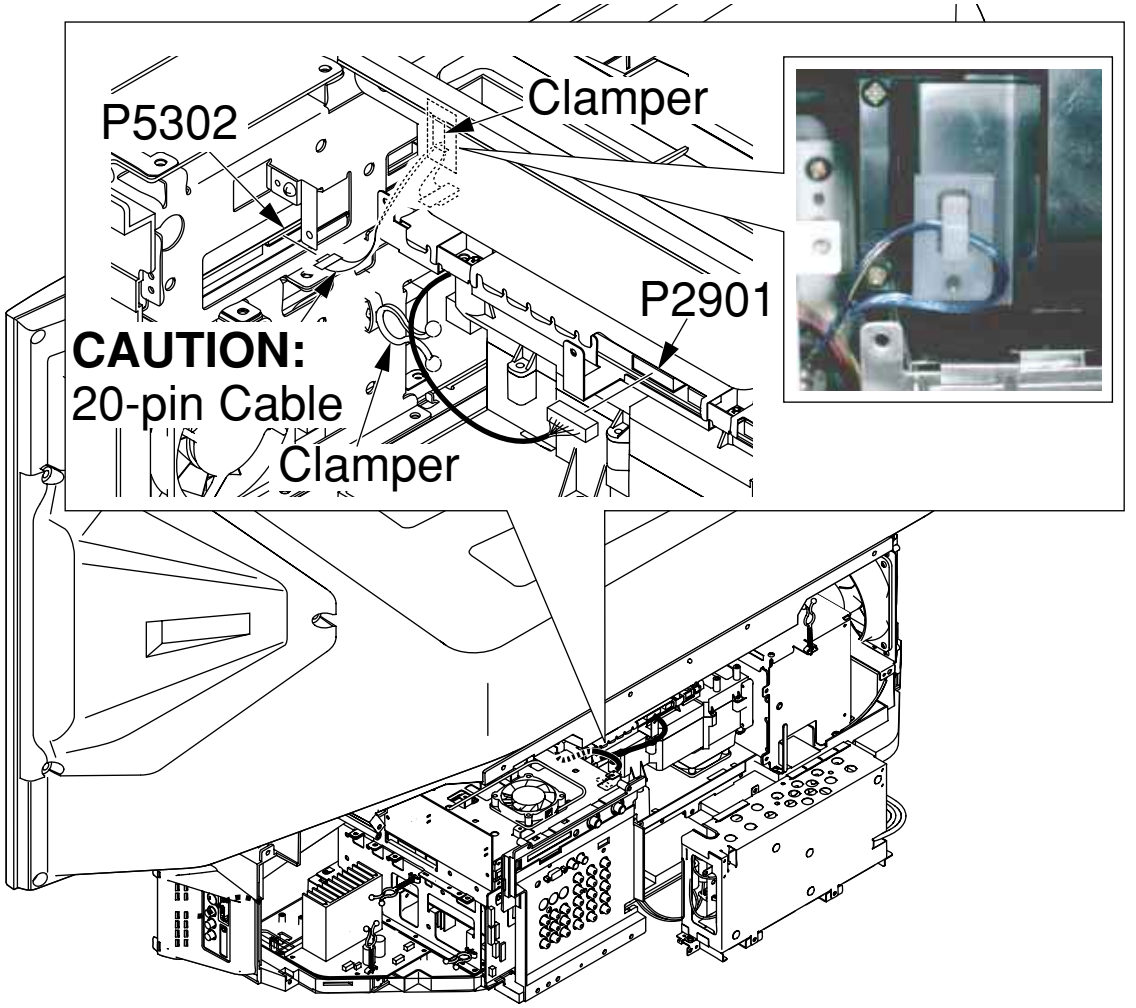


Fig. D1-6

6. 1) Pull off the TV/Tuner Ass'y with the Ballast C.B.A. while taking care with the cables.
   2) Remove the GND Plate A from the TV/Tuner Unit by removing the Screw (452).
   3) Remove the SD Door Unit from the TV/Tuner Unit by releasing the 2 Locking Tabs.

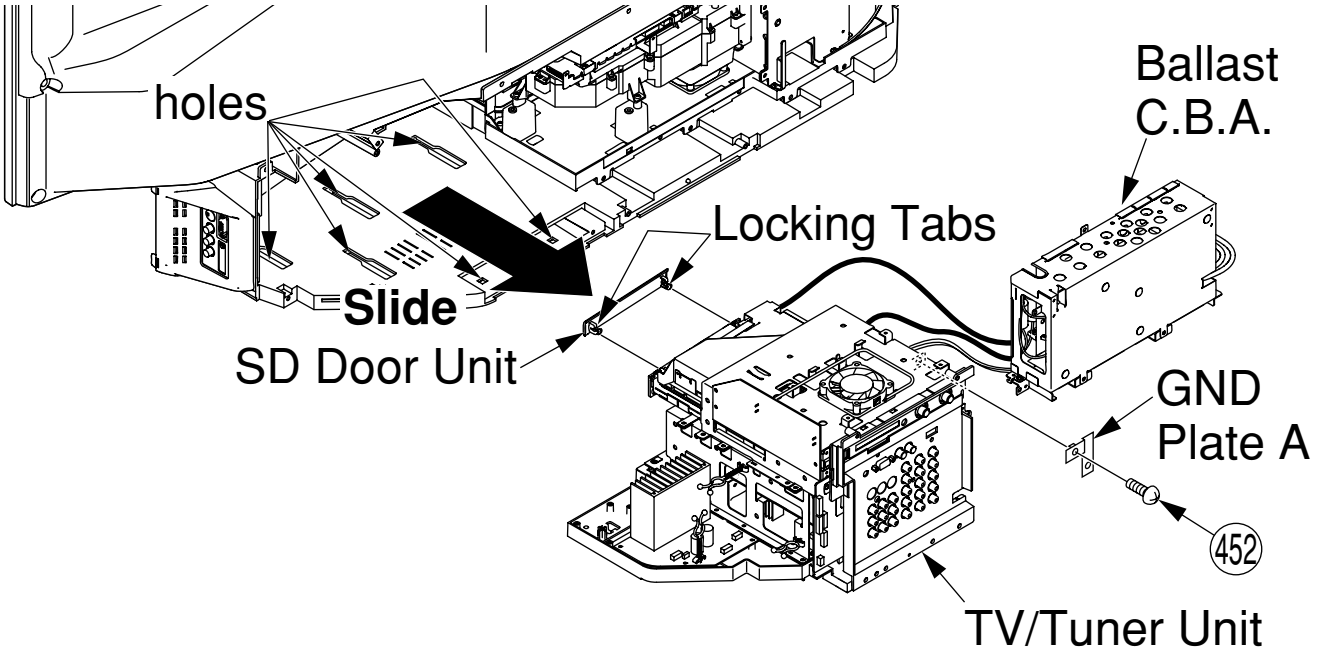


Fig. D1-7-1

Reassembly Note: When installing the SD Door Unit, install the SD Door Unit with the 2 Locking Tabs from the front of the cabinet after installing the TV/Tuner Unit into the cabinet.

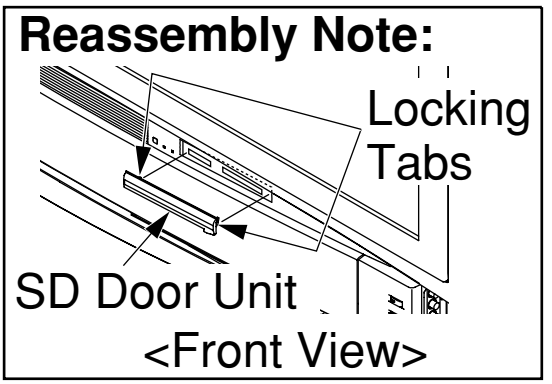


Fig. D1-7-2

Replacement Note of TV/Tuner Unit:
These parts will be necessary when replacing the TV/Tuner Unit. Set aside, and keep and re-use.
- The GND Plate A
- The SD Door Unit

7. 1) Disconnect Connectors P6002, P805, P1001 and release them from the clampers.
   2) Then, remove the Ballast C.B.A.

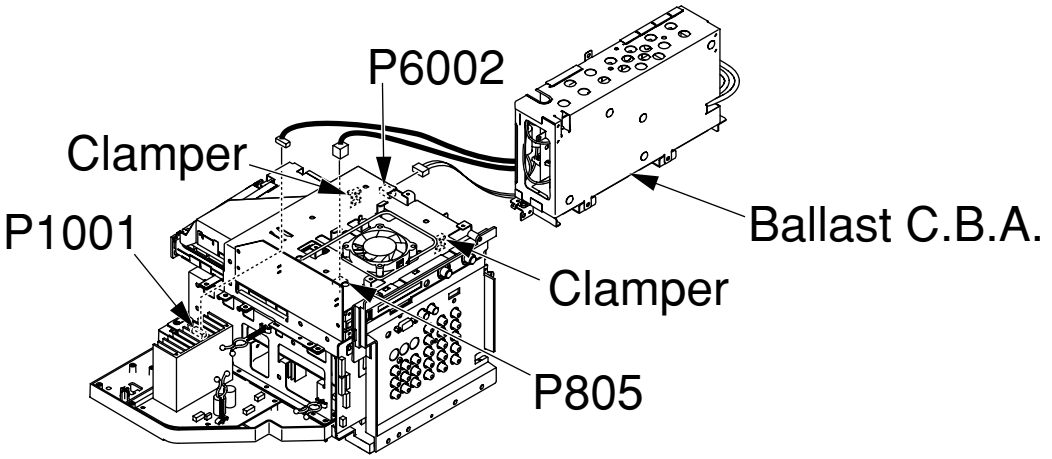
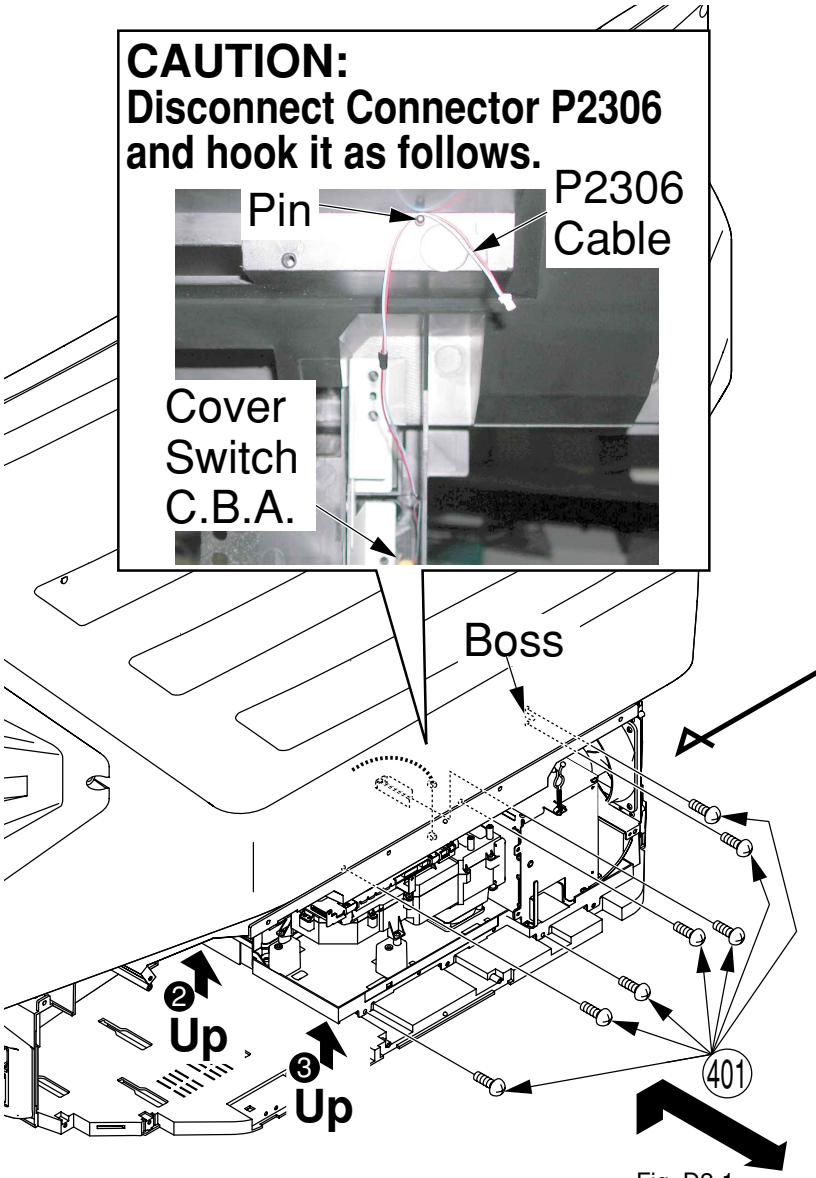


Fig. D1-8

REMOVAL OF THE PROJECTION UNIT FROM THE CABINET

1. Remove the Ballast C.B.A. and the TV/Tuner Unit. Refer to Steps 1~6 in “REMOVAL OF THE BALLAST C.B.A. AND THE TV/TUNER UNIT FROM THE CABINET.”
2. 1) Disconnect Connector P2306. Then, hook the P2306 cable to the pin.
   2) Remove the 7 Screws (401) on the Projection Unit.
   3) Lift up and slide the Projection Unit by releasing the 5 Guide Tabs.
   Tips on removal of the Projection Unit:
   First, slide the Projection Unit to the rear (approx. 1.5 inch (4 cm)). Then, lift up the front and the rear portions of the Projection Unit by both hand to release the Guide Tabs. Then, slide out the Projection Unit.
   Or, remove the Fan 3 Unit from the Projection Unit at first. Refer to Fig. D2-3.



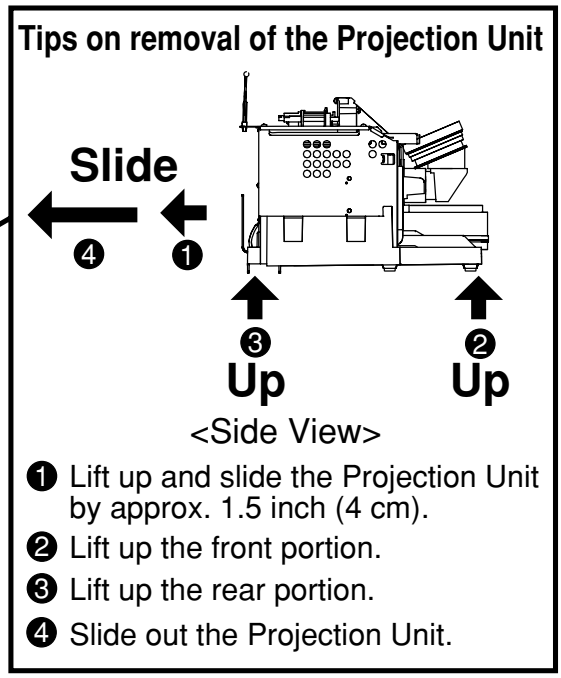


Fig. D2-1

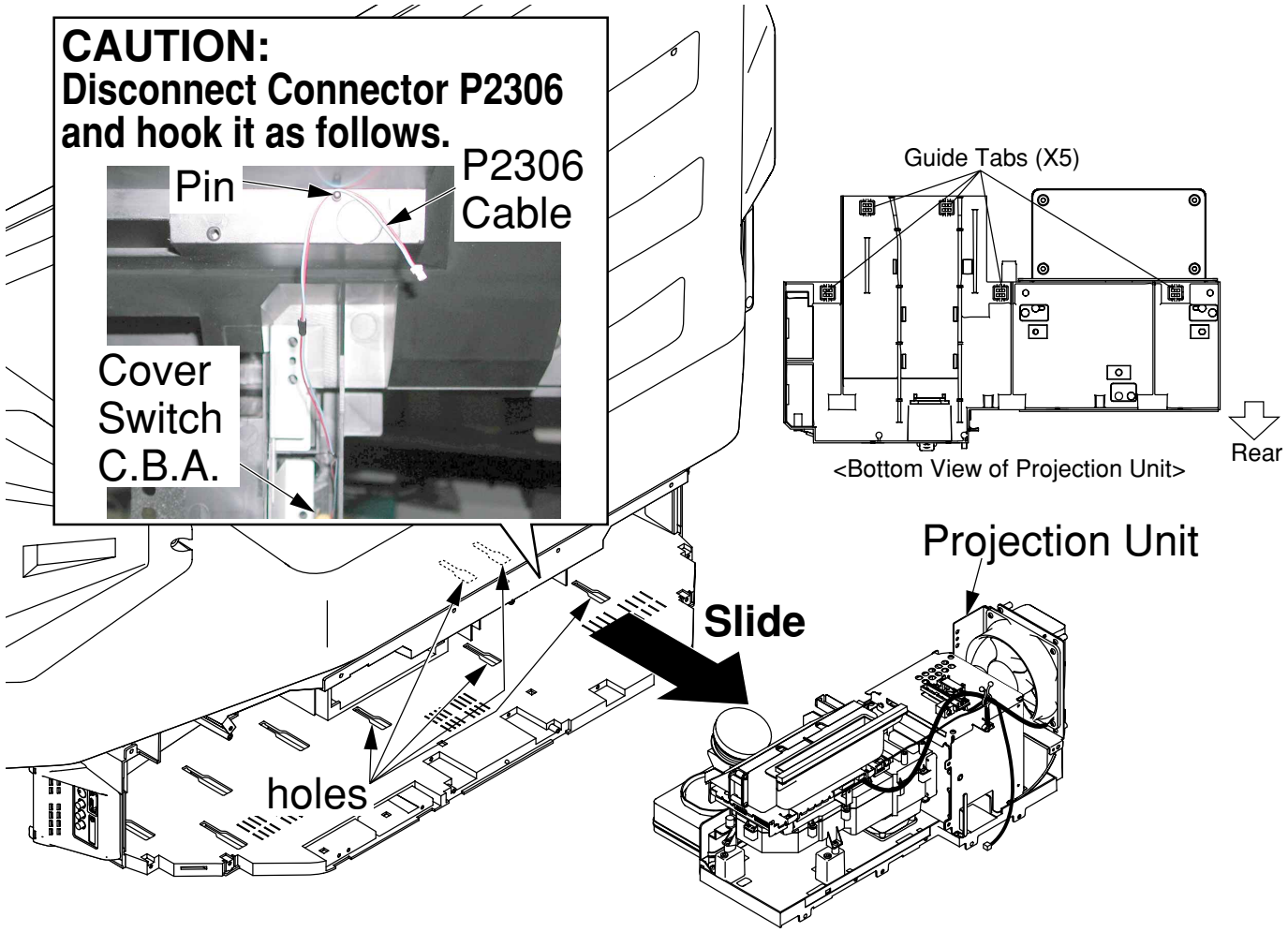


Fig. D2-2

Reassembly Note:
Before installing the Projection Unit, confirm that the P2306 cable is hooked to the pin. Then, install the Projection Unit to the cabinet.

3. 1) Disconnect Connector P2501 (20-pin Cable), and release it from the clamper.
   2) Disconnect Connector P2904, and remove the Fan 3 Unit by removing the 2 Screw (402).
   3) Remove the Top Duct 3 Unit by removing the 4 Screws (421) and release it from the clamper.

   CAUTION:
   When removing the Screws (421) on the Top Duct 3 Unit, plastic dust may be produced. Therefore, confirm that there is no dust on the Top Duct 3 Unit. If there is dust, clean the Top Duct 3 Unit with a brush, etc. Otherwise, dust may adhere to the inside of the screen.
   4) Remove the Lamp from the Projection Unit by loosening the Screw.

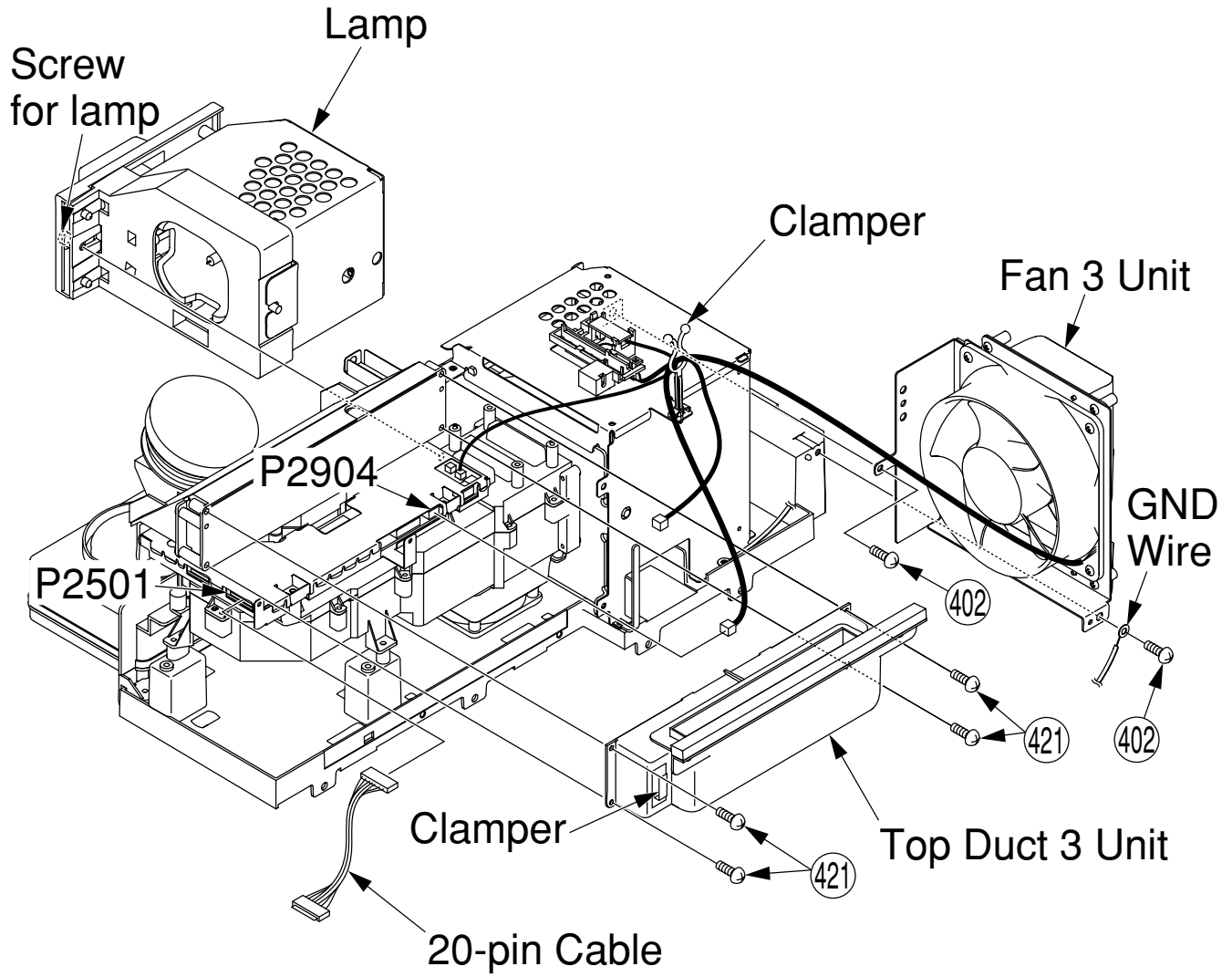


Fig. D2-3

Replacement Note of Projection Unit:
These parts will be necessary when replacing the Projection Unit. Set aside, and keep and re-use.
- Fan 3 Unit
- Top Duct 3 Unit
- 20-pin Cable

CAUTION:
When replacing the Projection Unit;
1. Be sure to install the original Lamp, the Fan 3 Unit, the Top Duct 3 Unit, the 20-pin Cable into the new Projection Unit as the replacement.
2. The following ADJUSTMENT of the Projection Unit must be performed.
   a. Mechanical Picture Position Adjustment
   b. Focus Adjustment
      Note:
      Perform this adjustment only if necessary. (Normally, it will not be necessary.)
   c. Electrical Picture Position Adjustment

Refer to “WHEN REINSTALLING THE PROJECTION UNIT INTO THE UNIT AT THE USER’S LOCATION” in SERVICE NOTES.

REMOVAL OF THE TUNER C.B.A., THE DTV TUNER UNIT, THE MAIN C.B.A., THE DIGITAL TUNER POWER C.B.A., THE REAR JACK C.B.A., THE AUDIO AMP C.B.A., THE POWER C.B.A. FROM THE TV/TUNER UNIT

CAUTION:

1. **Be sure to make a note of the CURRENT LAMP value (value A) in Service Mode (1/3):**
   LAMP OPERATION TIME is stored in EEPROM on the Main C.B.A. Therefore, before removing the Main C.B.A. or the TV/Tuner Unit at the user's location, make a note of the CURRENT LAMP value (value A) in Service Mode (1/3).
   Then, after installing the new Main C.B.A. or the TV/Tuner Unit at the user's location, set the CURRENT LAMP value to the original value (value A) in Service Mode.
   Otherwise, OSD and LED Lamp replacement indications will be displayed at the wrong time.

Note:
In case it is impossible to make a note of the CURRENT LAMP value because of a defective Main C.B.A., ask the customer their daily average use and the approximate age of the current Lamp. Then, calculate the CURRENT LAMP value as follows and make a note.

Daily average use (hours)	X	Approx. age (days)	=	**CURRENT LAMP** (hours)

1. Remove the TV/Tuner Unit and the Ballast C.B.A. Refer to Steps 1~7 in "REMOVAL OF THE BALLAST C.B.A. AND THE TV/TUNER UNIT FROM THE CABINET."
2. 1) Disconnect Connectors P6003, P5601, P7002, P7008, P3604, P3503, Tuner terminal and release from the clampers.
   2) Remove the Tuner C.B.A. by removing the 3 Screws (402).
   3) Remove the Fan5 by removing the 2 Screws (435).

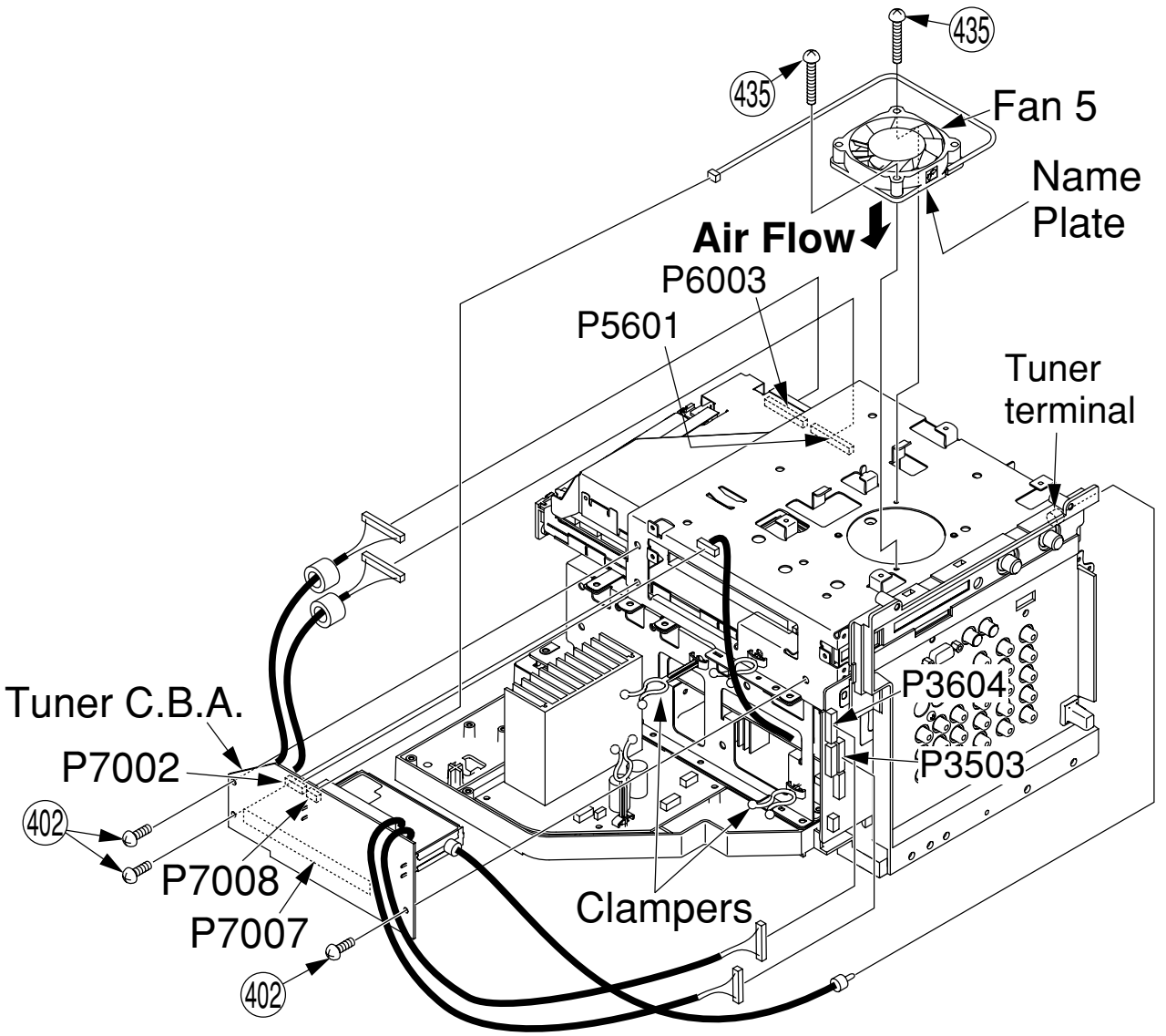


Fig. D3-1-1

4) Release the AC Cord from the slot of the Rear Jack Holder.
5) Remove the Rear Jack Holder by removing the 4 Screws (402).
6) Pull off the DTV Tuner Unit by removing the 2 Screws (402).

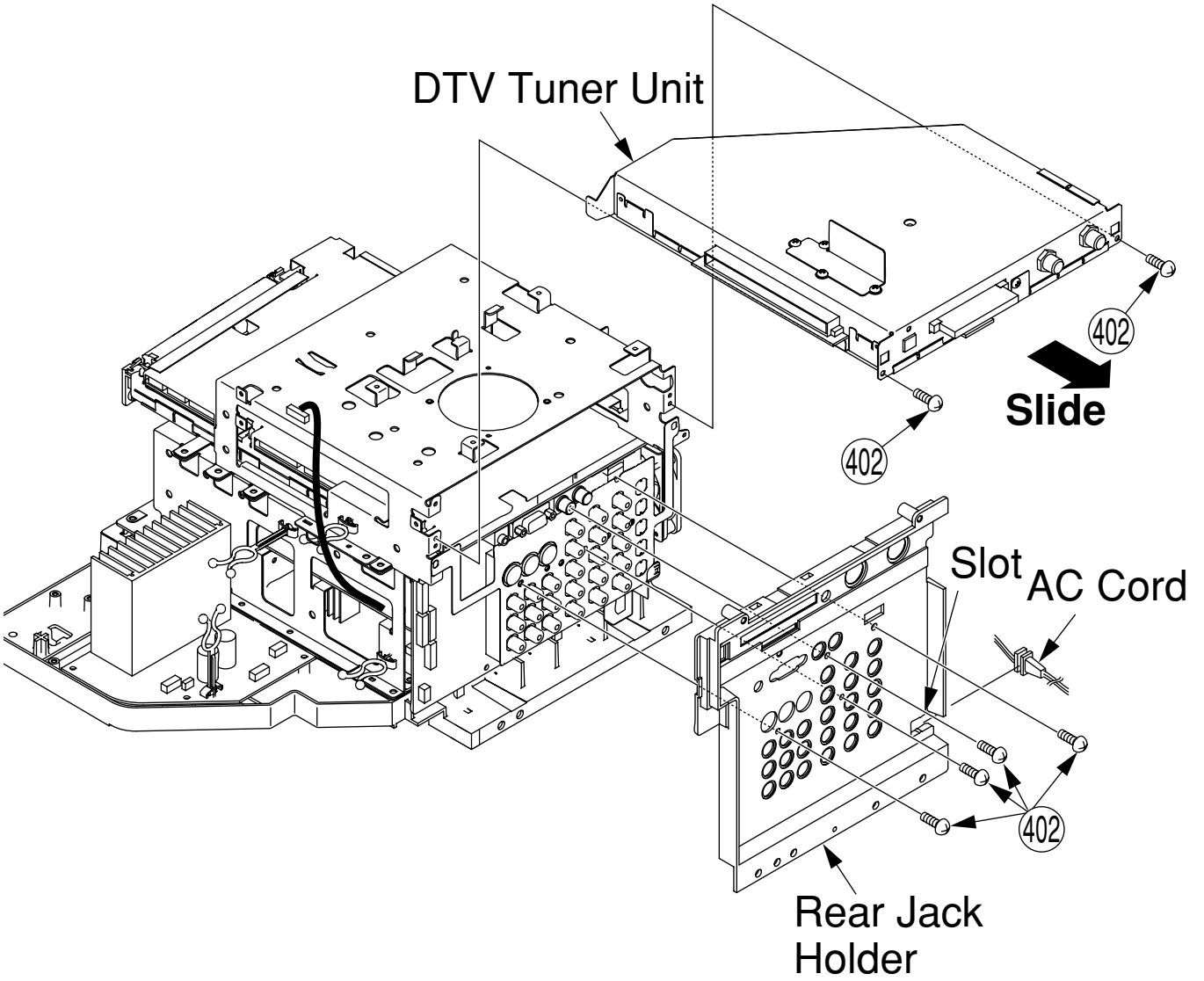


Fig. D3-1-2

3. 1) Disconnect Connector P3401 and release from the clamper.
   2) Remove the Tuner P.C.B. Frame by removing the 6 Screws (402).

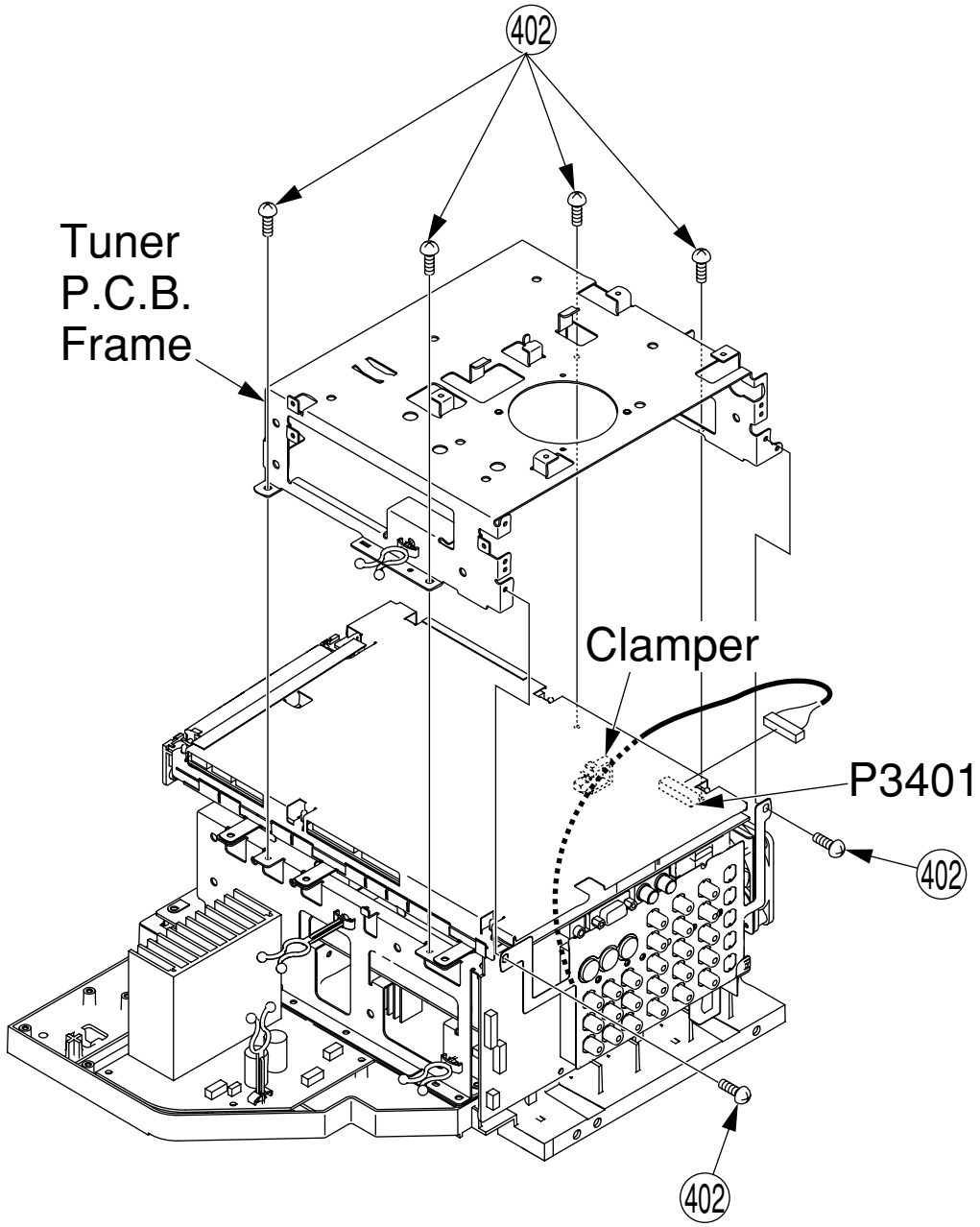


Fig. D3-2

4. Remove the Main C.B.A. by removing the 6 Screws (402) and disconnecting Connector P3403 and P3404.
   Note:
   Be careful not to bend the plates of the Main C.B.A.

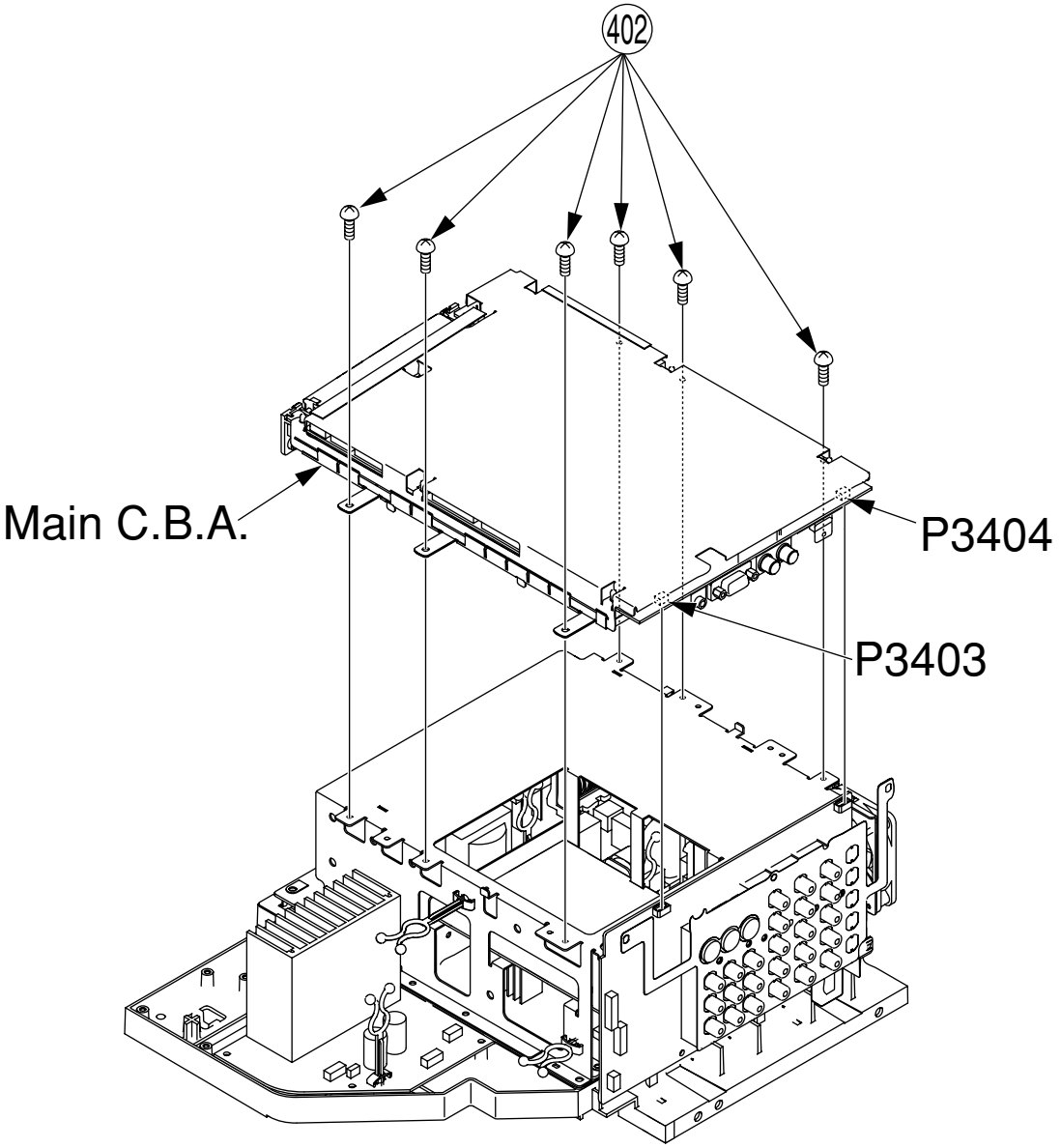


Fig. D3-3

5. 1) Disconnect Connector P1201, and remove the Digital Tuner Power C.B.A. by removing the 4 Screws (402).
   2) Disconnect Connector P3603 and release from the clamper.
   3) Remove the Rear Jack C.B.A. and the GND Plate C from the slots by removing the 2 Screws (402).

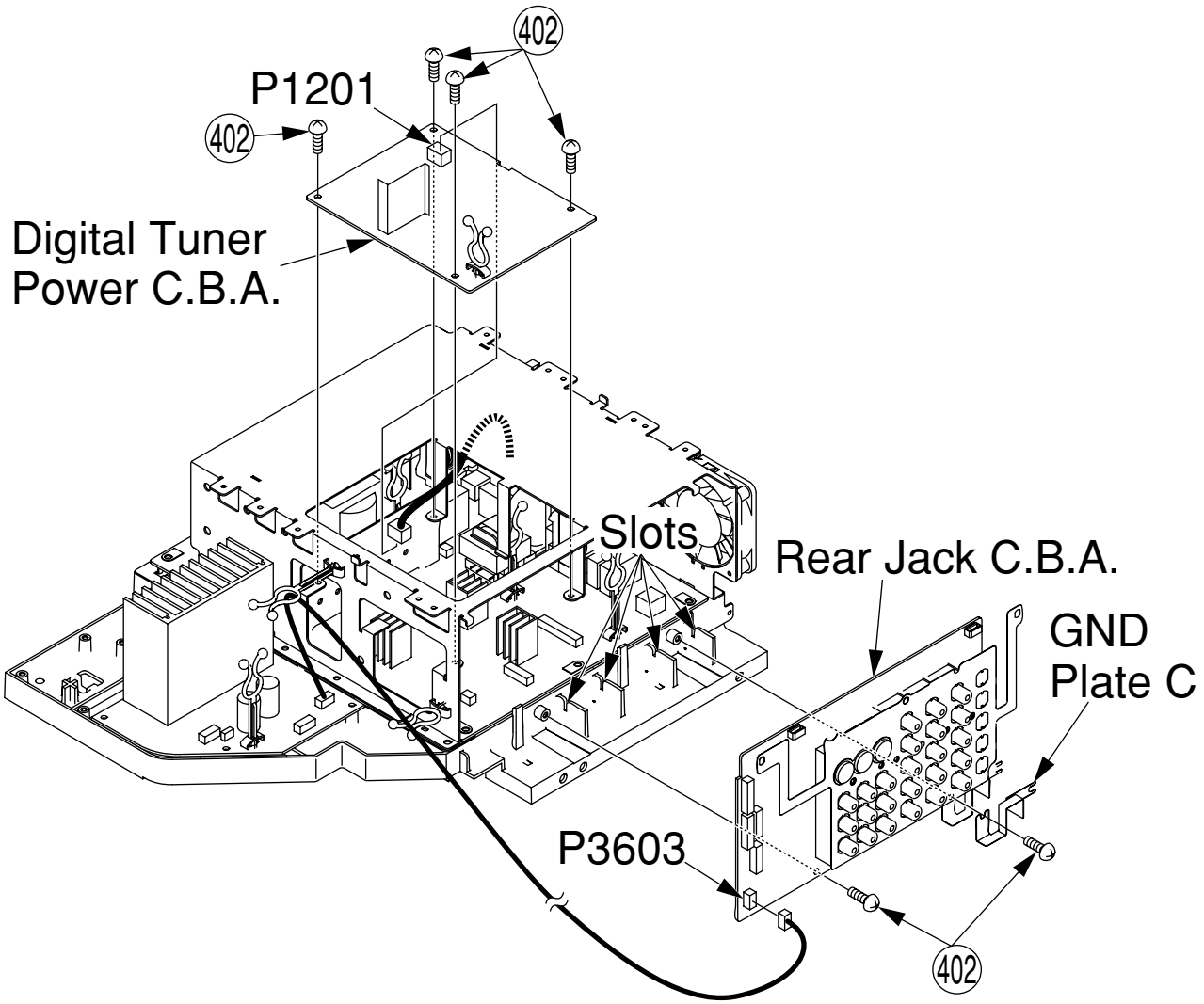


Fig. D3-4

6. 1) Disconnect Connector P4501 and release from the clamper.
   2) Remove the Audio Amp C.B.A. by removing the 4 Screws (402).
   Note: The Audio Amp C.B.A. can be removed from the TV/Tuner Unit at any time.

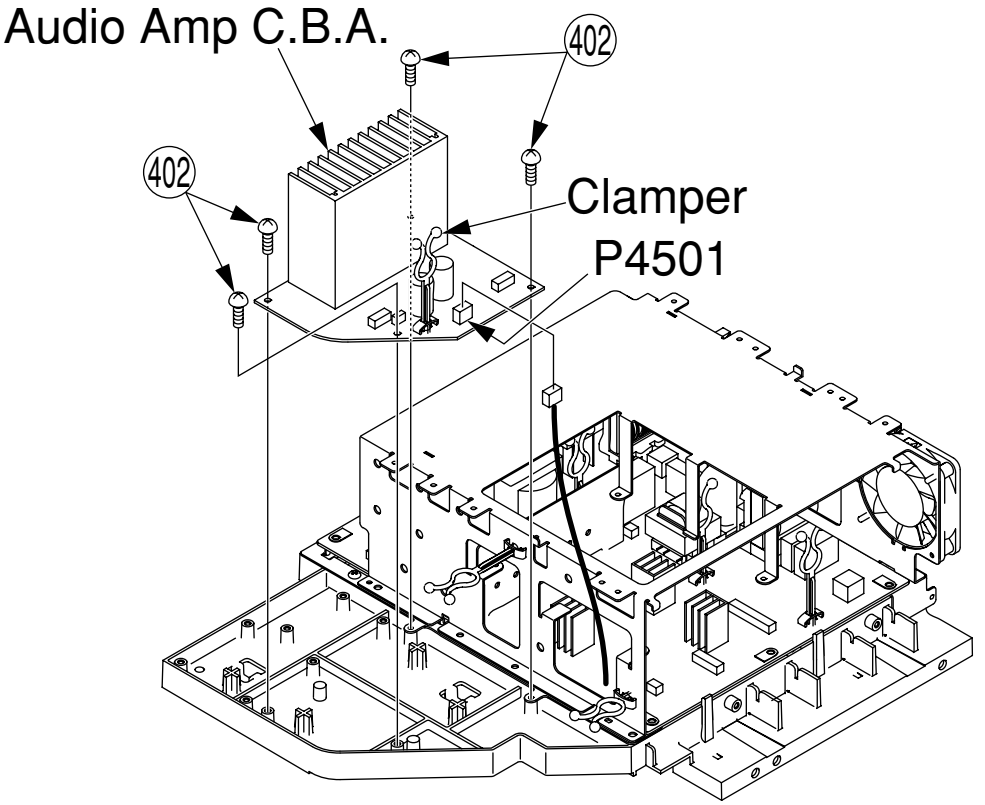


Fig. D3-5

7. 1) Disconnect Connector P1006 and release from the clamper.
   2) Remove the Main P.C.B. Frame by removing the 6 Screws (402), and remove the Fan 4 by removing the 2 Screws (435).
   3) Remove the Power C.B.A. by removing the 5 Screws (411).
   4) Disconnect Connector P804 (AC Cord) and release from the clamper.

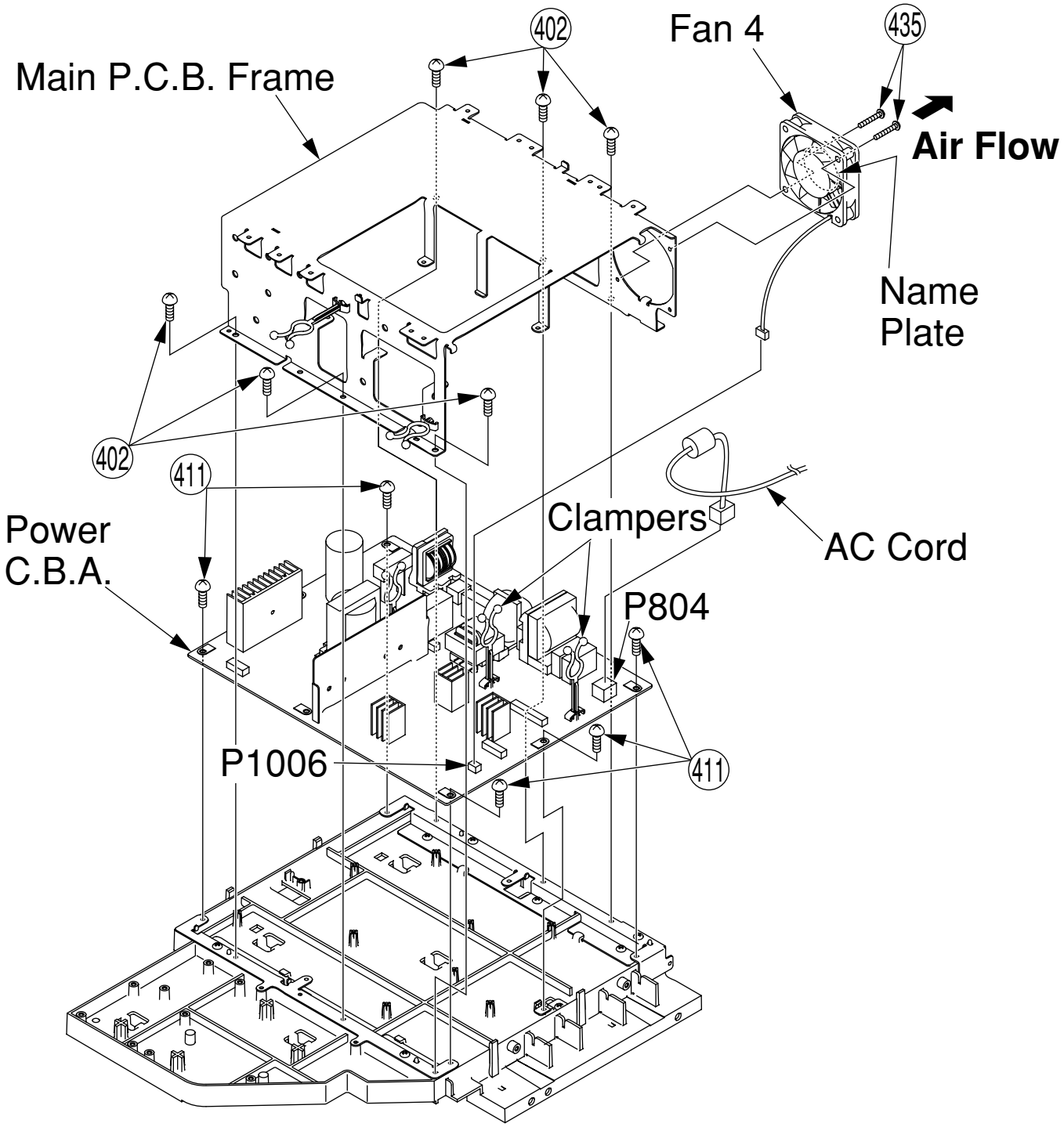


Fig. D3-6

Reassembly Note for Fan 4:
Install the Fan 4 with the 2 Screws (435) so that the name plate (manufacture's name etc.) face out (visible from the outside).

Note:

After servicing the Power C.B.A., be sure to connect the Connector P1006 on the Power C.B.A. to install the Fan 4.

Note: Alternative method to access the Power C.B.A. in the TV/Tuner Unit

1) Remove the Rear Jack Holder by removing the 4 Screws (402) from the TV/Tuner Unit.
2) Remove the 2 Screws (402) on the Rear Jack C.B.A.
3) Disconnect Connectors P3401, P1006, P1201 and release from the clampers.
4) Remove the 6 Screws (402) on the Main P.C.B. Frame and remove it.

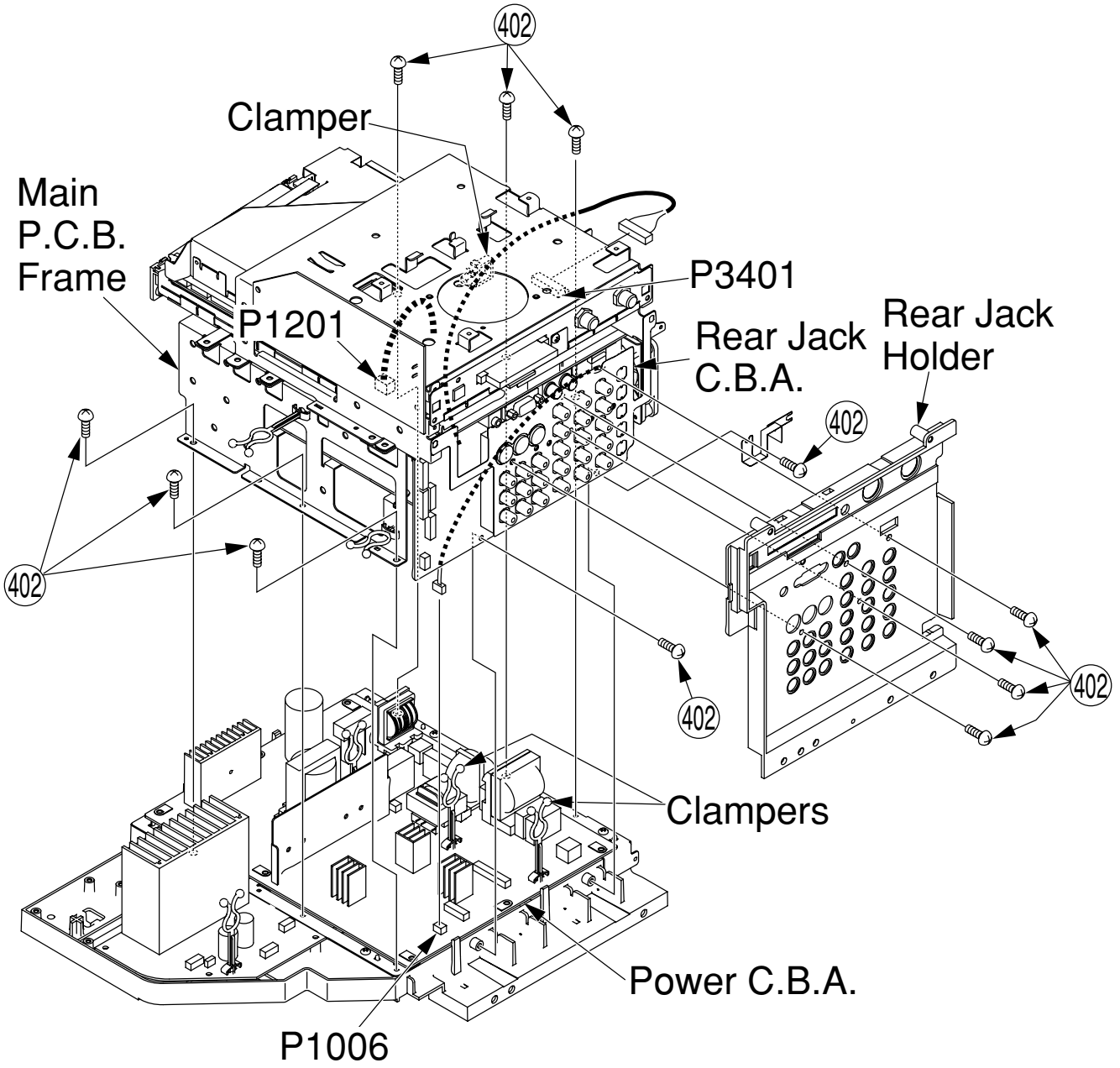


Fig. D3-7

Note:

After servicing the Power C.B.A., be sure to connect the Connector P1006 on the Power C.B.A. to install the Fan 4.

REMOVAL OF THE SCREEN UNIT AND THE SPEAKER FROM THE DISPLAY

1. 1) Remove the Front Cover Unit from the 8 latches.
   2) Remove the Optical Cover by removing the 2 Screws (454).
   3) Remove the 2 Screws (401) from front side.

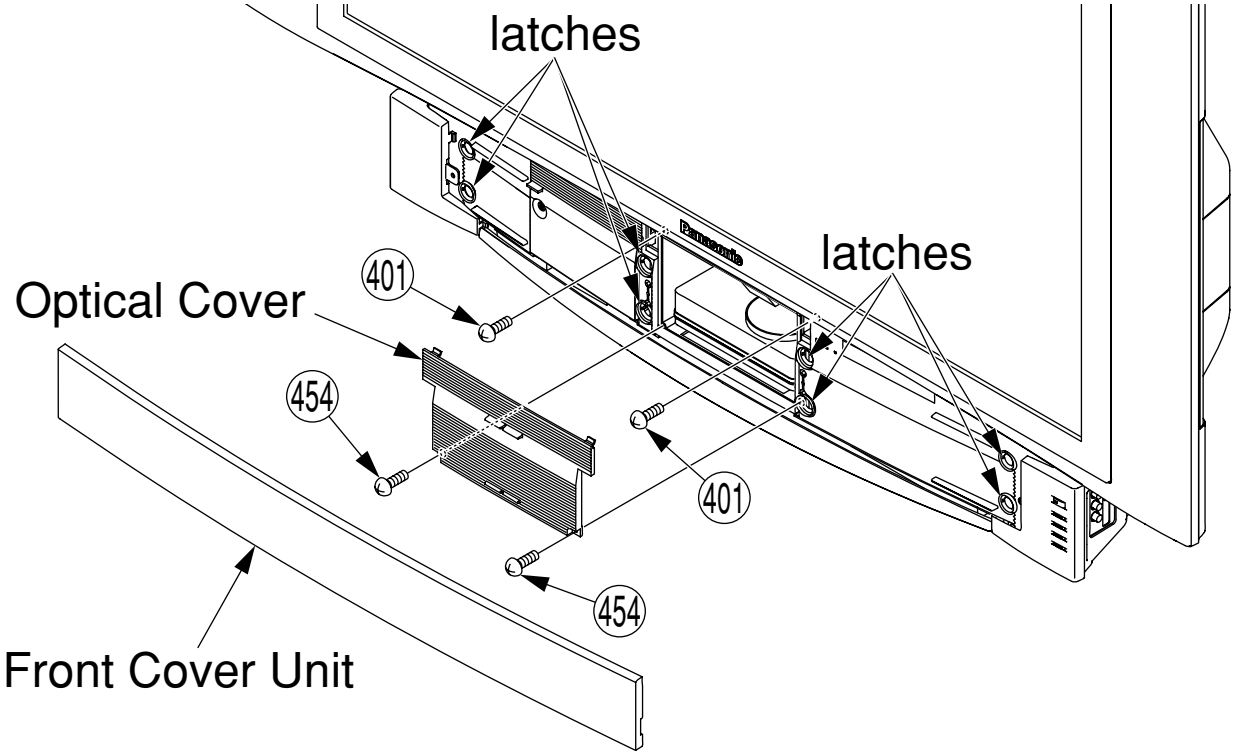


Fig. D4-1

2. **(PT-50LCX63**)
   Remove the Rear Cover by removing the 18 Screws (401), refer to Fig. D1-1-1.
   (PT-60LCX63)
   Remove the Rear Cover by removing the 20 Screws (401, 464), refer to Fig. D1-1-2.

3. 1) Disconnect Connector P4503 (speaker cables) and release it from the clamper.
   2) Remove the 2 Screws (401) from rear side, and remove the Display.

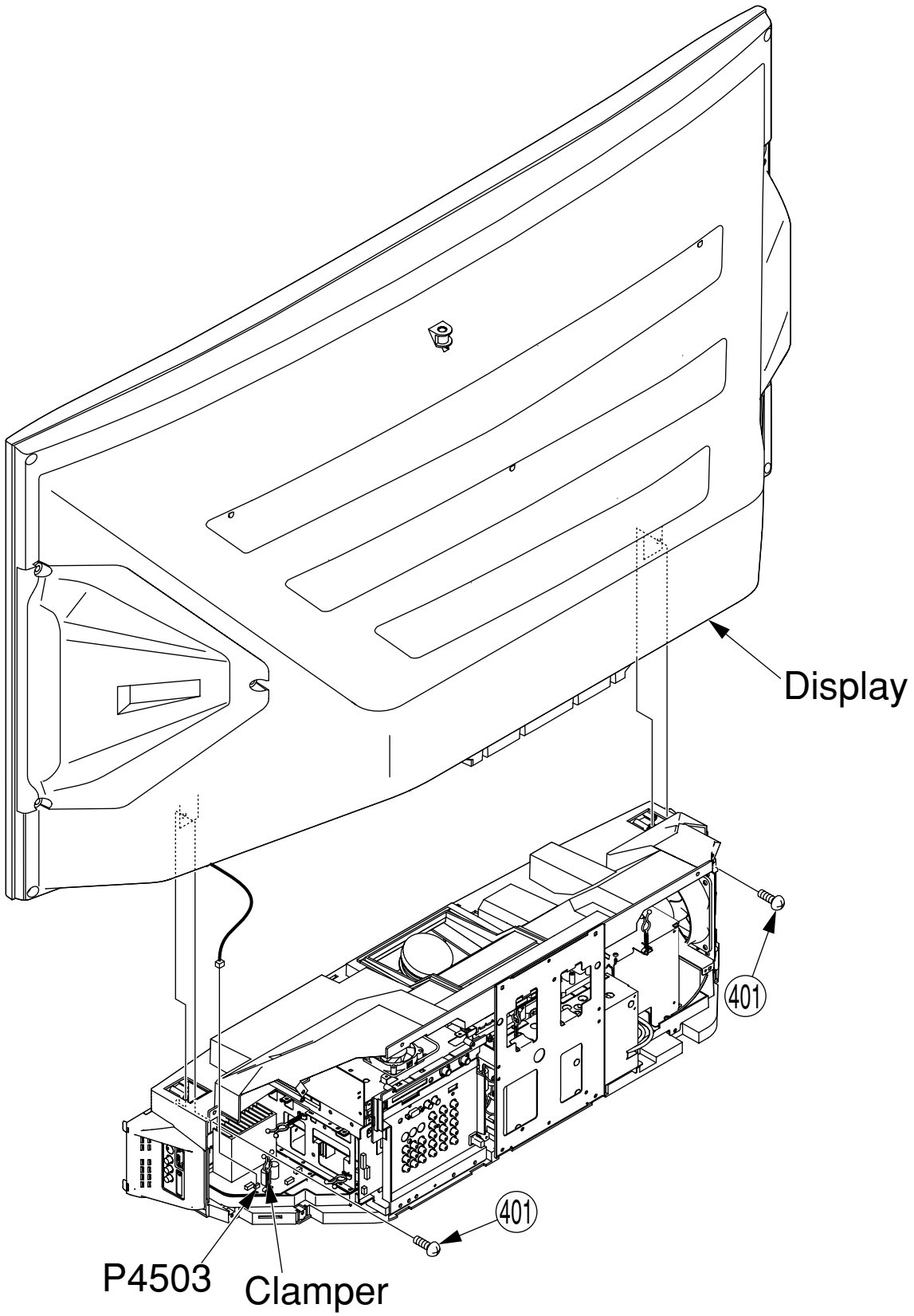


Fig. D4-3

4. 1) Remove the Speaker-L and the Speaker-R by removing the 6 Screws (401, 450) and 6 Washers (453), and disconnect the connectors P4553.
   (PT-50LCX63)
   2) Remove the Screen Unit by removing the 16 Screws (401).

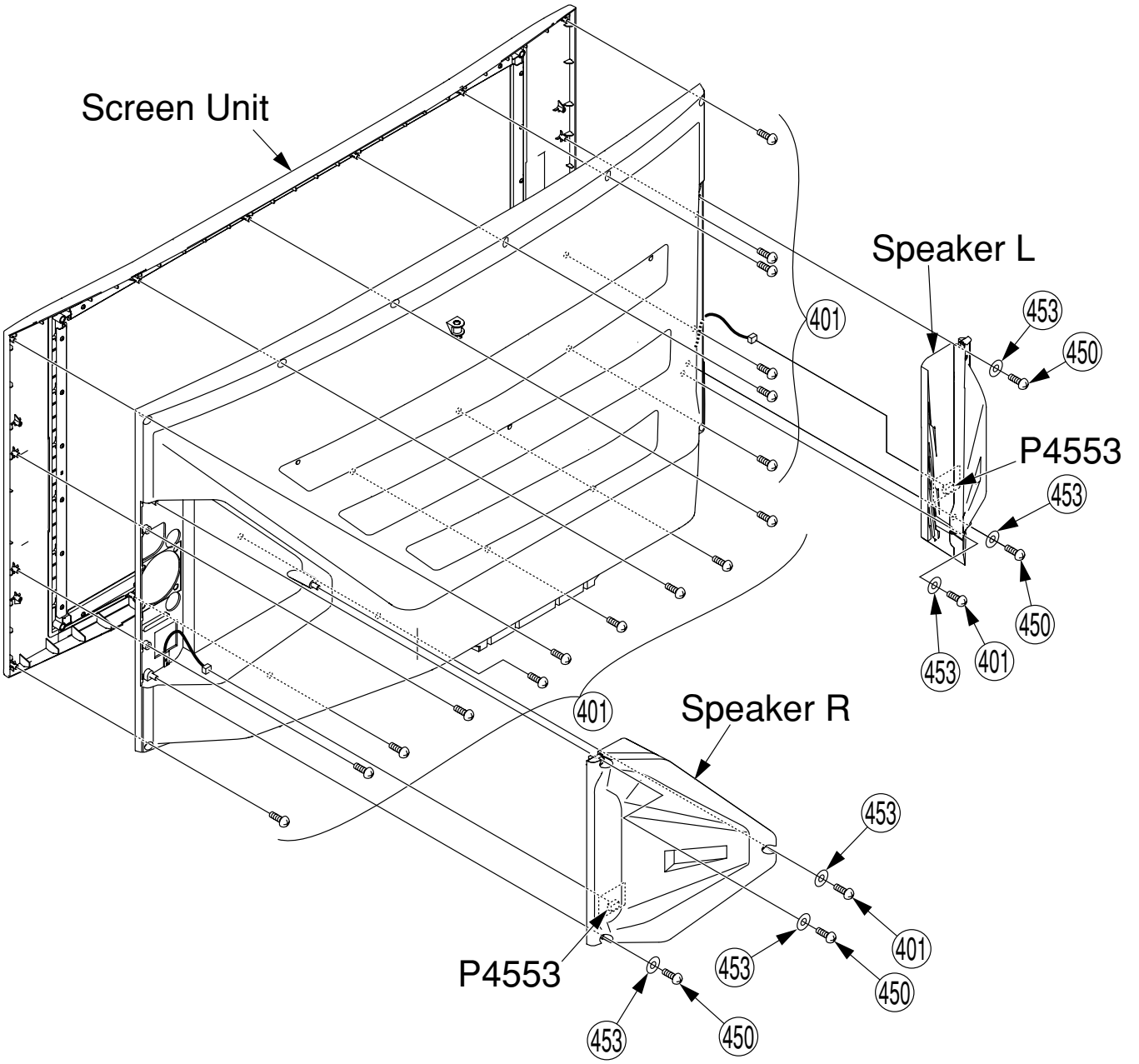


Fig. D4-4-1

(PT-60LCX63)

2) Remove the Screen Unit by removing the 26 Screws (401).

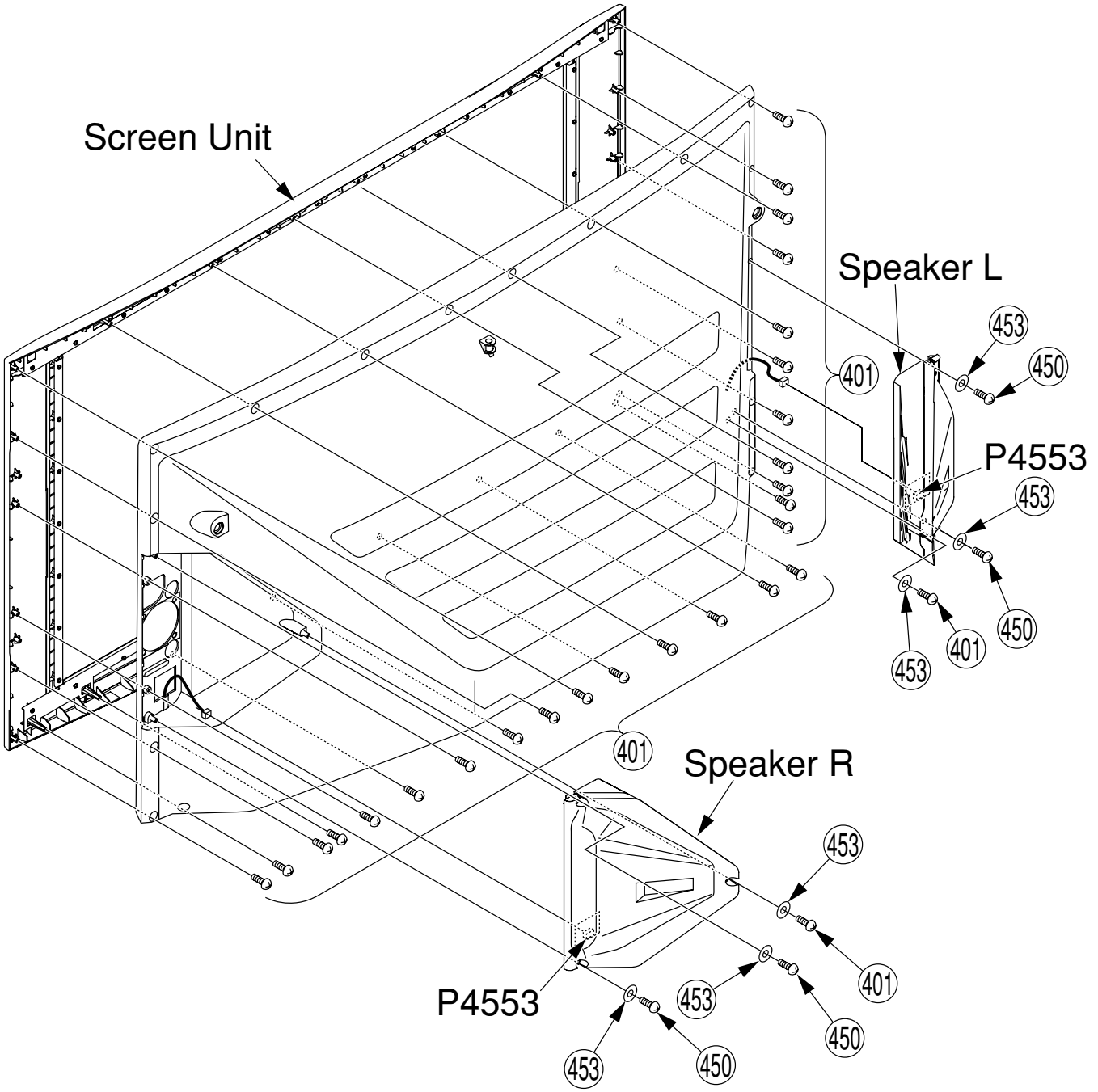


Fig. D4-4-2

5. **(PT-50LCX63)**
Remove the 2 Screen Plate H and 2 Screen Plate V by removing 30 Screws (401), and remove the Fresnel Lens and the Lenticular Screen.

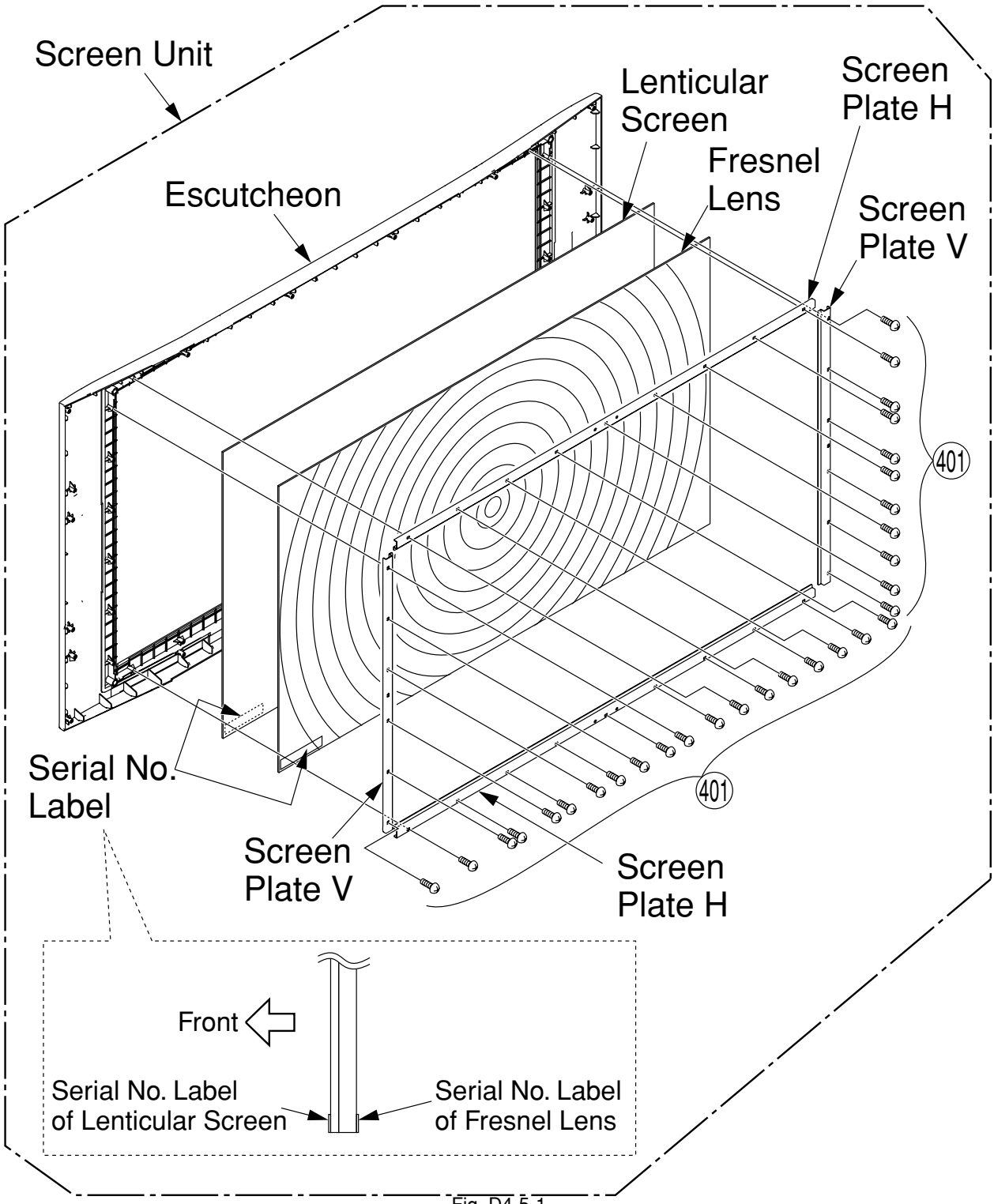


Fig. D4-5-1

Reassembly Note:
Install them so that Serial No. Labels are on the each outside as shown above.

Replacement Note for Screen Unit:
The Screen Unit is supplied as a unit, or the individual parts (Fresnel Lens, Lenticular Screen) in the Screen Unit are also supplied. When replacing the Fresnel Lens and the Lenticular Screen, take care that dust, etc., does not adhere between the Fresnel Lens and the Lenticular Screen. Due to this risk, it is strongly recommended to replace the Screen Unit as a unit.

5. **(PT-60LCX63)**
Remove the 2 Screen Plate H and 2 Screen Plate V by removing 40 Screws (465), and remove the Fresnel Lens and the Lenticular Screen.

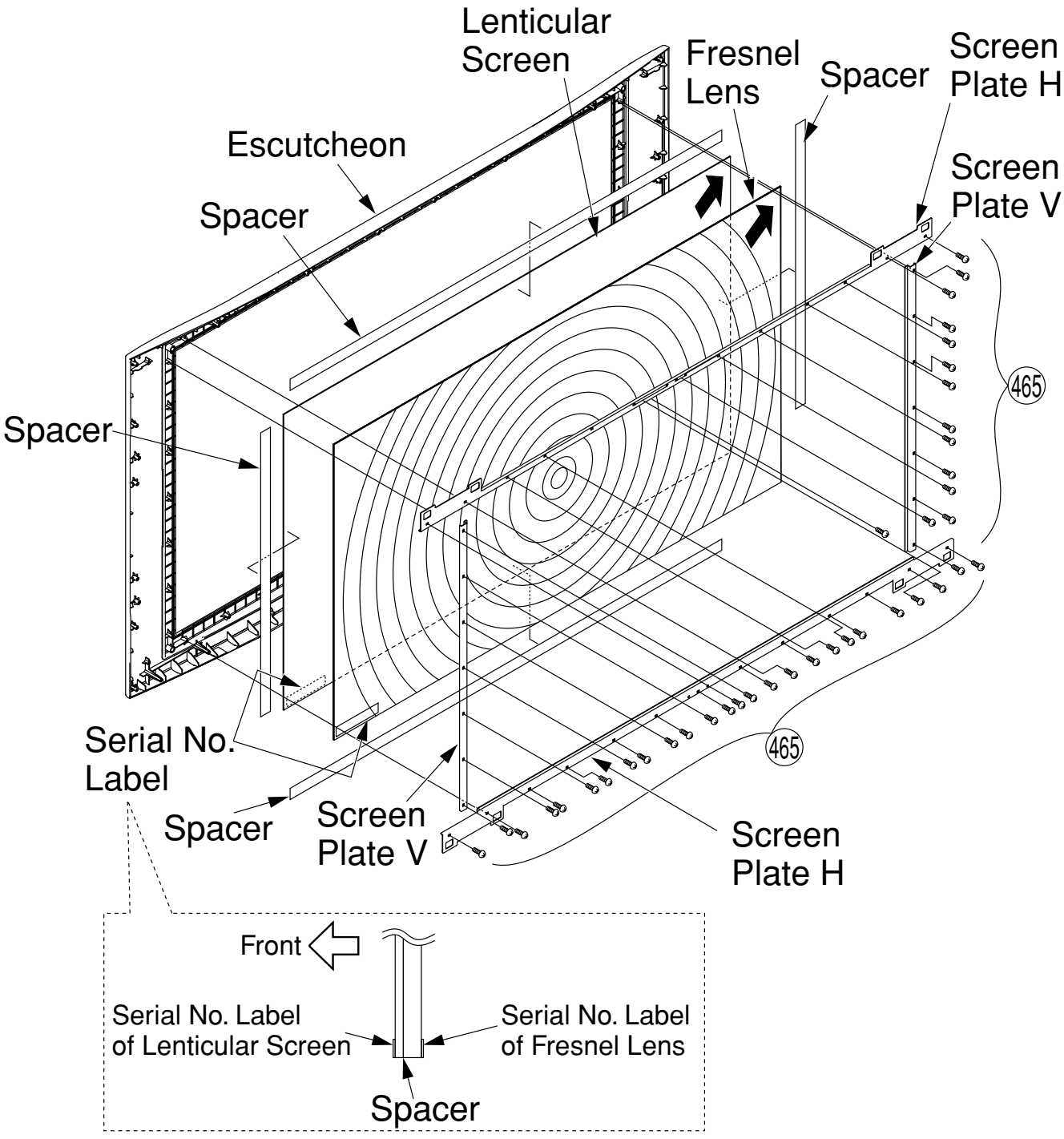


Fig. D4-5-2

Reassembly Note:
1. Tighten the Screws while keeping them pressed toward the upper right corner from rear.
2. Install them so that Serial No. Labels are on the each outside, and the 4 Spacers on the Lenticular Screen as shown above.

Replacement Note for Screen Unit:
The Screen Unit is supplied as a unit, or the individual parts (Fresnel Lens, Lenticular Screen) in the Screen Unit are also supplied. When replacing the Fresnel Lens and the Lenticular Screen, take care that dust, etc., does not adhere between the Fresnel Lens and the Lenticular Screen. Due to this risk, it is strongly recommended to replace the Screen Unit as a unit.

REMOVAL OF THE MIRROR FROM THE BACK COVER

(PT-50LCX63)

1. Remove the Screen Unit. Refer to Steps 1~4 in "REMOVAL OF THE SCREEN UNIT AND THE SPEAKER FROM THE DISPLAY."
2. 1) Remove the 2 Mirror Holder H and the 2 Mirror Holder V Unit by removing the 12 Screws (401).
   2) Remove the Mirror from the top by releasing the Back Cover slots.
   Note: Be careful that the Mirror does not fall down when removing.

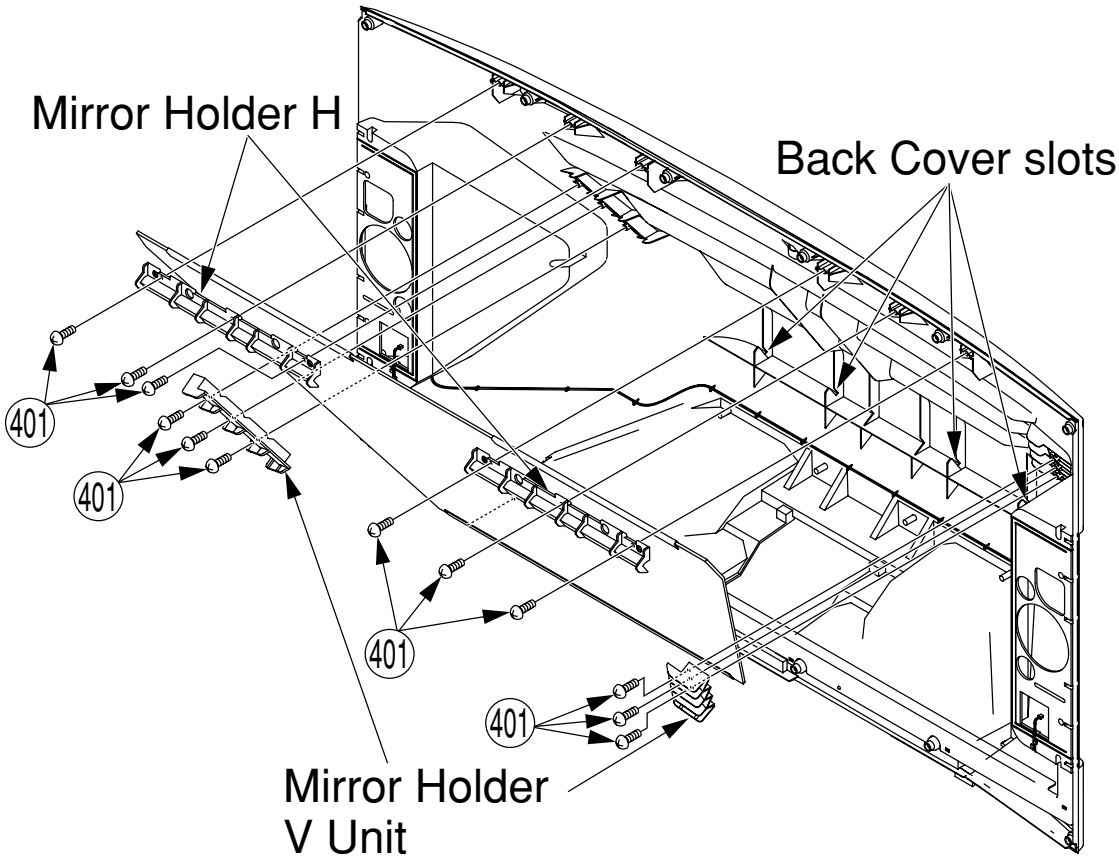


Fig. D4-6-1

Reassembly Notes for Mirror:
Install the Mirror as following procedures:

1) Place the 3 sheets on the top and bottom edges of the Mirror.

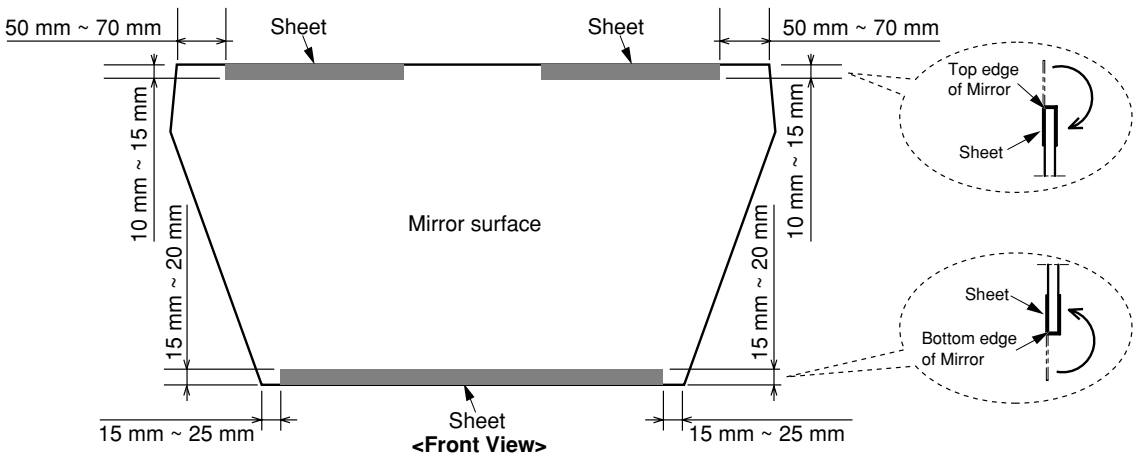


Fig. D4-7-1

2) Hold the sheet portions of the Mirror, and insert the Mirror from the top into the Back Cover slots carefully. When handling the Mirror, do not touch the Mirror surface.
3) Install the 2 Mirror Holder H and the 2 Mirror Holder V on the Mirror and tighten the 12 Screws (401).

(PT-60LCX63)

1. Remove the Screen Unit. Refer to Steps 1~4 in "REMOVAL OF THE SCREEN UNIT AND THE SPEAKER FROM THE DISPLAY."
2. 1) Remove the 3 Mirror Holder H and the 2 Mirror Holder V Unit by removing the 15 Screws (401).
   2) Remove the Mirror from the top by releasing the Back Cover slots.
   Note: Be careful that the Mirror does not fall down when removing.

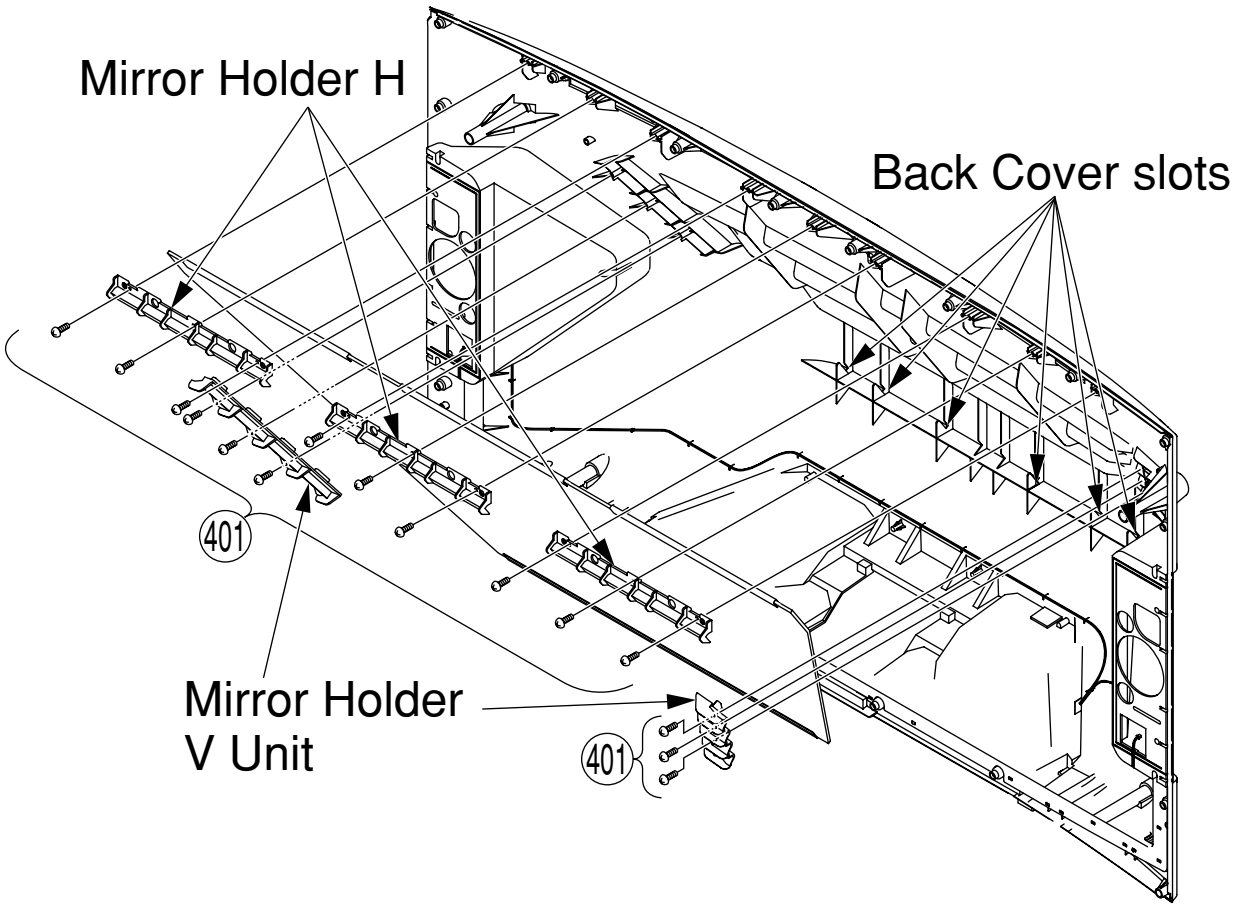


Fig. D4-6-2

Reassembly Notes for Mirror:
Install the Mirror as following procedures:

1) Place the 4 sheets on the top and bottom edges of the Mirror.

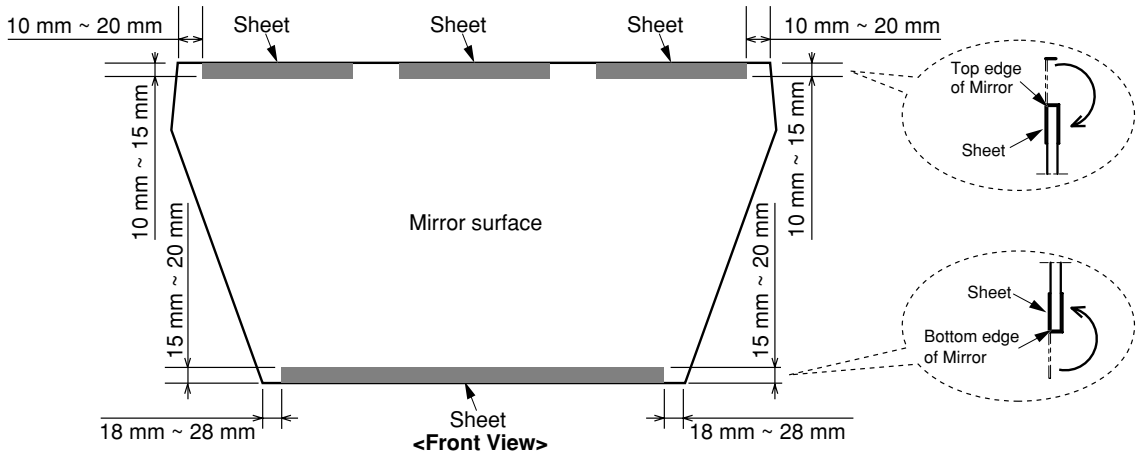


Fig. D4-7-2

2) Hold the sheet portions of the Mirror, and insert the Mirror from the top into the Back Cover slots carefully. When handling the Mirror, do not touch the Mirror surface.
3) Install the 3 Mirror Holder H and the 2 Mirror Holder V on the Mirror and tighten the 15 Screws (401).

REMOVAL OF THE FRONT JACK C.B.A. AND THE OPERATION C.B.A. FROM THE CABINET

1. 1) Remove the Rear Cover by removing the 18 Screws.
   2) Disconnect Connector P6305 and release it from the clamper.
2. 1) Remove the Front Cover Unit from the 8 latches.
   2) Remove the Screw (454).
   3) Slide the Front Side Cover R with the Operation C.B.A. as indicated by the arrow to release the 4 slots.
   4) Pull off the Operation C.B.A. from front side.
   5) Remove the Operation C.B.A. and the Operation Button Unit from the Front Side Cover R by removing the 4 Screws (421).

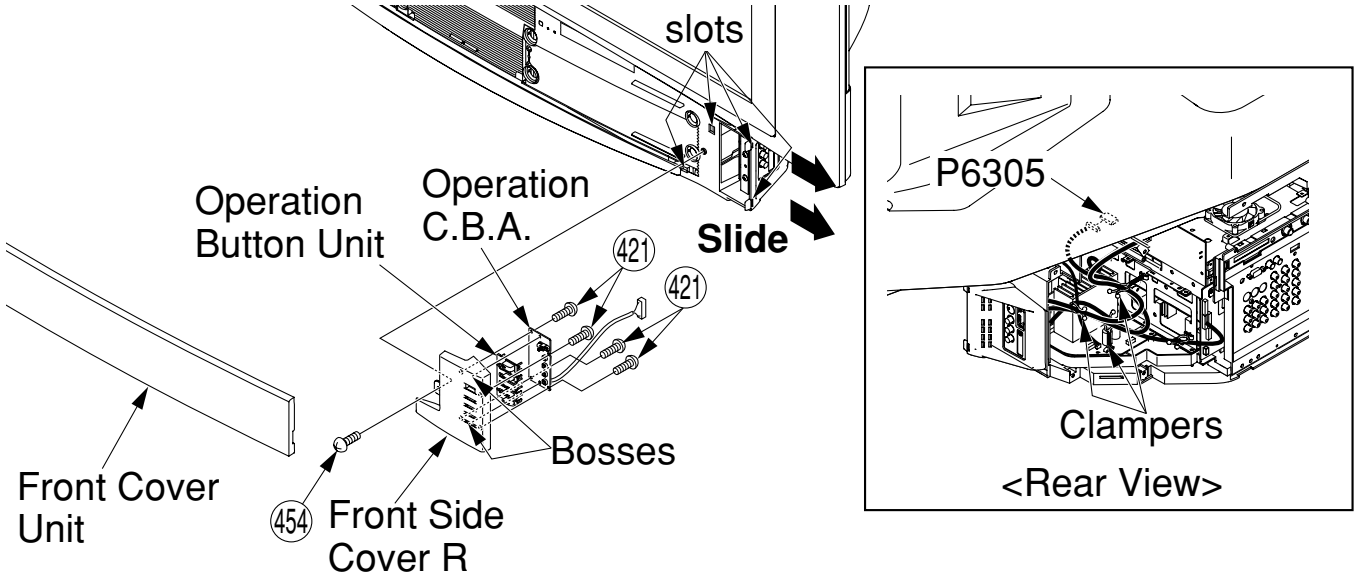


Fig. D5-1

3. 1) Disconnect Connectors P3502, P5501 and release them from the clampers.
   2) Remove the 2 Screw (401).
   3) Pull off the Front Jack C.B.A. from front side.
   4) Remove the Front Jack C.B.A. from the Side Jack Holder by removing the 2 Screws (421) and releasing the 2 Locking Tabs.

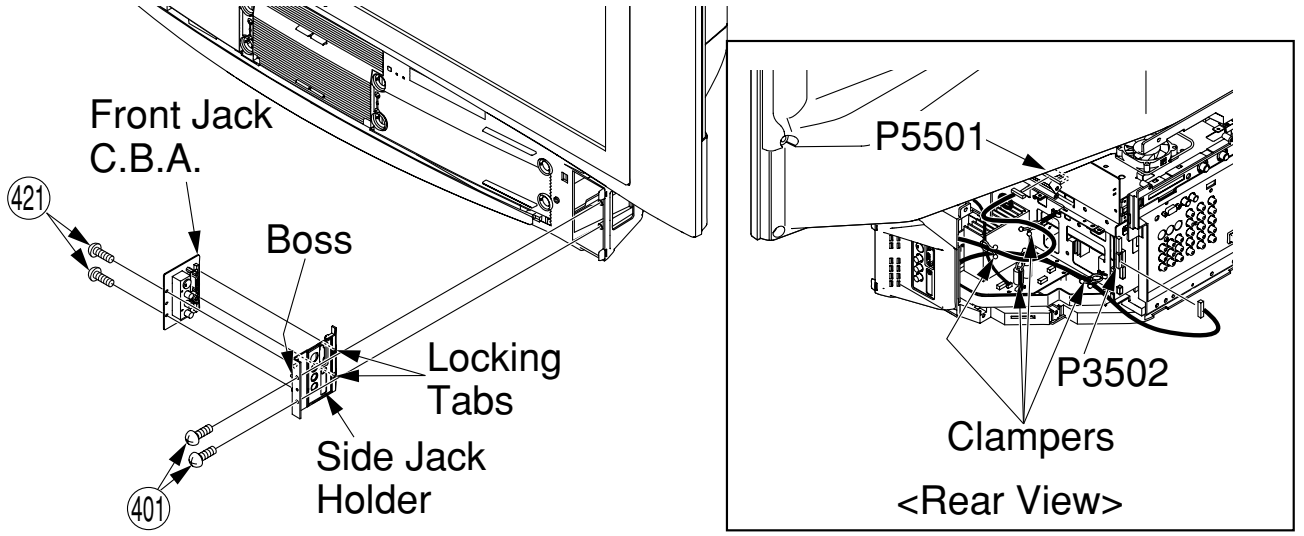


Fig. D5-2

REMOVAL OF THE COVER SWITCH C.B.A. FROM THE CABINET

1. Remove the Projection Unit. Refer to Steps 1~2 in “REMOVAL OF THE PROJECTION UNIT FROM THE CABINET.”
2. 1) Remove the Front Cover Unit from the 8 latches.
   2) Remove the Optical Cover by removing the 2 Screws (454).
   3) Remove the Screw (401) from the front side.

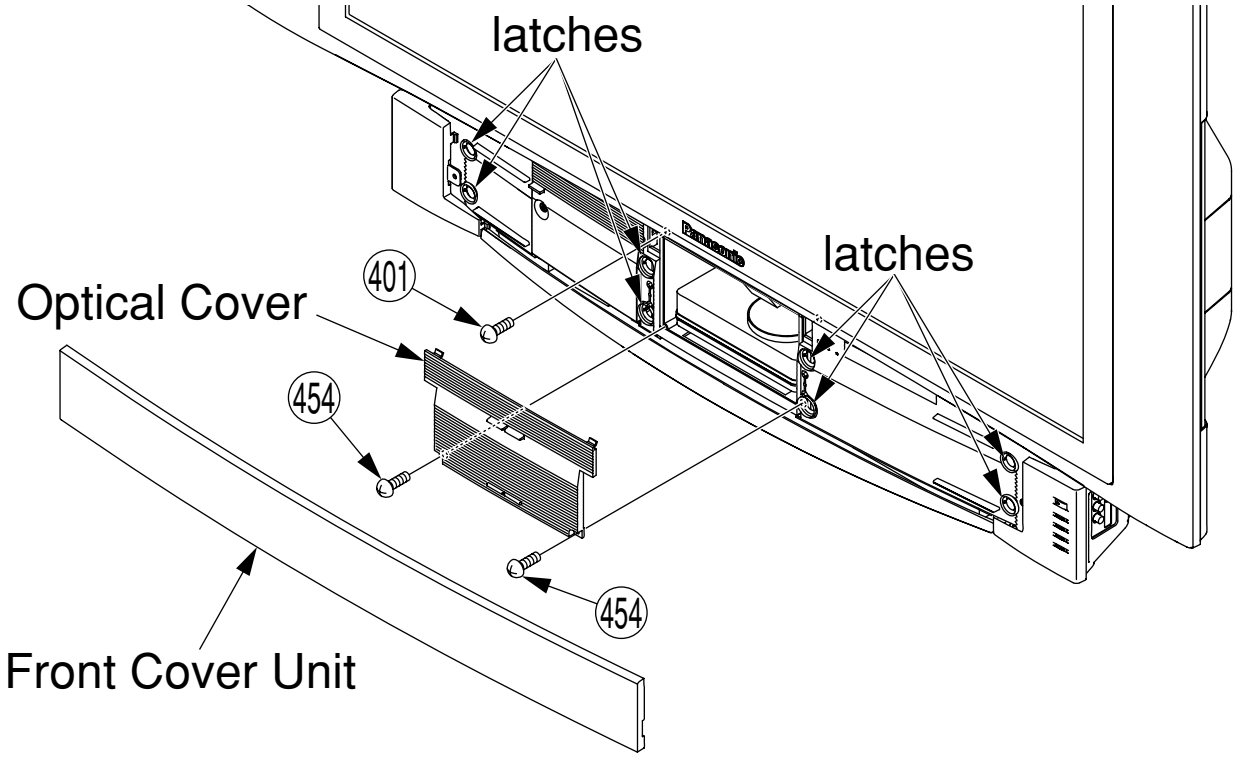


Fig. D6-1

4) To remove the Cover Switch C.B.A., remove the Display Support Plate L with the Cover Switch C.B.A. by removing the 2 Screws (401).
5) Remove the Cover Switch C.B.A. by removing the Screw (402).

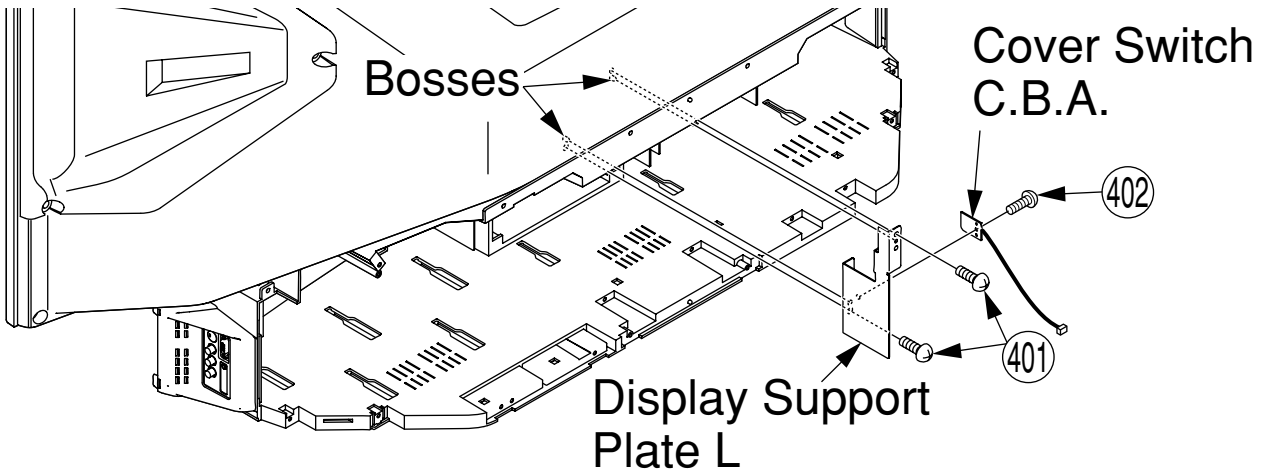
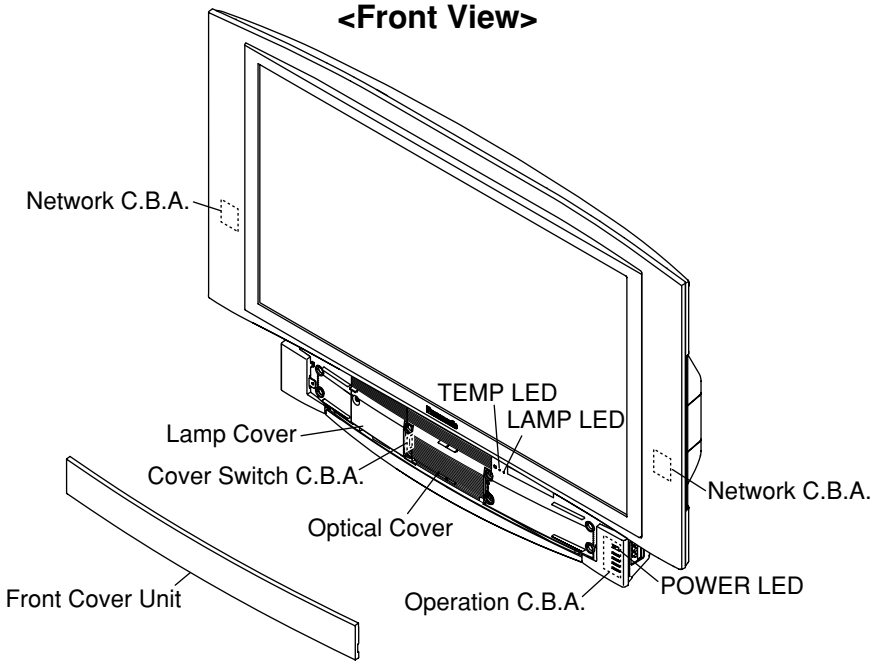
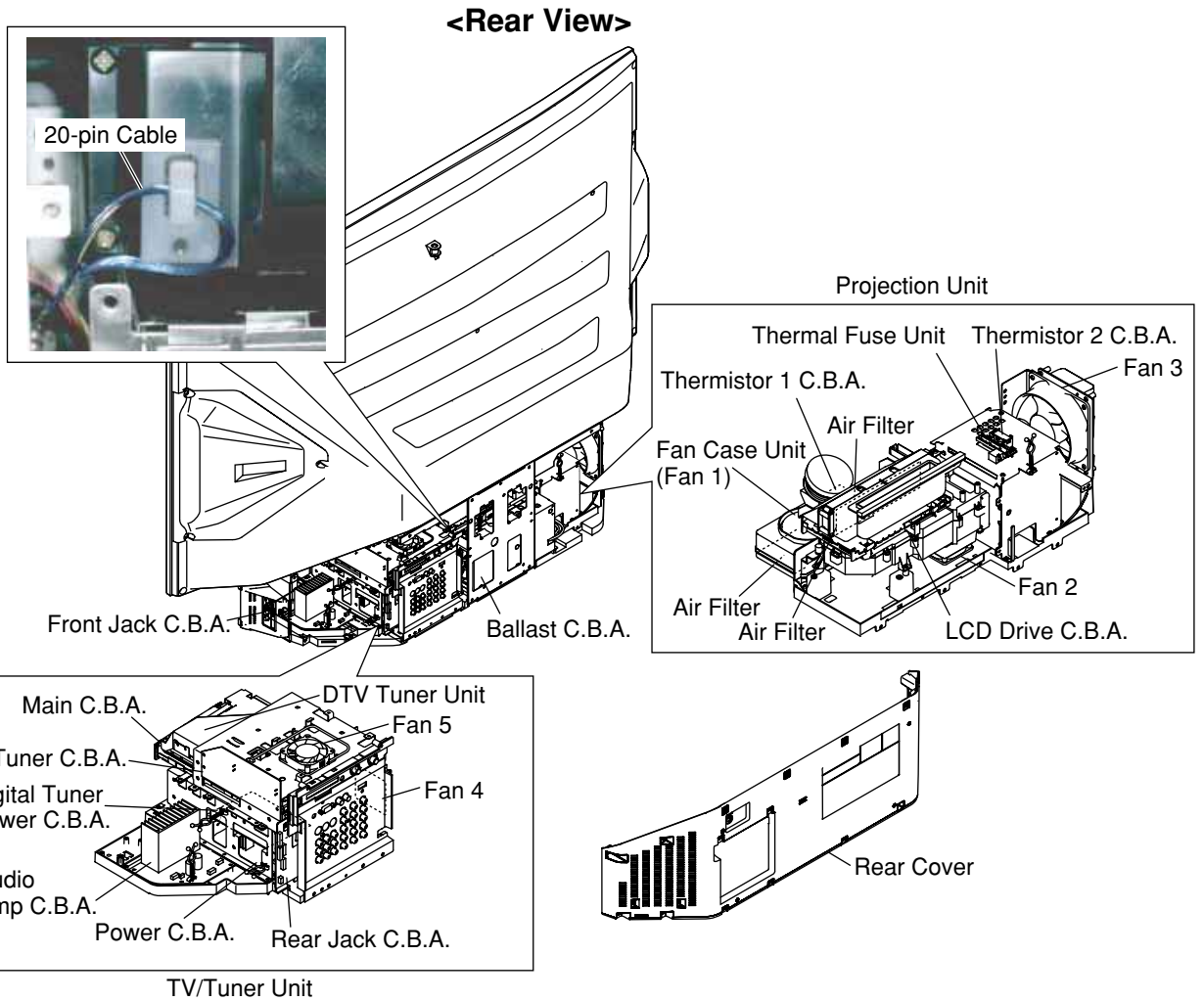


Fig. D6-2

Reassembly Note:
When installing the Display Support Plate L with the Cover Switch C.B.A., install it with the Lamp Cover removed.

MAIN PARTS LOCATION





ERROR INDICATION INFORMATION

Each LED indication facilitates finding the cause of the error.
When an error is detected, each LED on the front will light up or flash when the AC Cord is plugged in.
The detected error data will not be stored in the EEPROM. This data is cleared when the AC Cord is unplugged.

Error No.	Error Information	ERROR DESCRIPTION	POWER LED	TEMP LED	LAMP LED	OSD (Note 3)	LAMP OFF (Note 4)
1)	**Fan1, Fan2 or Fan3 stopped**	IC6302(pin6) detects the stop of FAN1, FAN2 or FAN3, then indicates the error when the FAN1, FAN2 or FAN3 is stopped.	flashes orange once every 5 seconds	-	-		○
2)	**Lamp Cover open**	IC6003(pin66) detects the Lamp Cover condition (open or close), then indicates the error when the Lamp Cover is open.	flashes orange twice every 5 seconds	-	-		○
3)	**Temperature Sensor shorted or open**	IC6302(pin4 and 5) detects open or short of the Temperature Sensor (R2811) on Thermistor 1 C.B.A., then indicates the error when Temperature Sensor is open or shorted. (The error is not detected for 1 minute after Lamp ON.)	-	flashes once every 5 seconds	-		○
4)	**Abnormal Temperature**	IC6302(pin4 and 5) detects the temperature near the FAN1 by the Temperature Sensor (R2811) on Thermistor 1 C.B.A., then indicates the error when the temperature exceeds 55℃ (131℉). (The error is not detected for 1 minute after Lamp ON.)	-	flashes twice every 5 seconds	-		○
5)	**Ballast Error (abnormal Lamp)**	IC6003(pin19) detects the error of the Lamp, and Ballast C.B.A., then indicates the error when an inner malfunction of Ballast C.B.A. occurs, the Lamp voltage becomes more than 130V or less than 30V, the Lamp is cracked, the Thermal Fuse Unit is open or the Lamp is not cooled off.	(flashes green for 140 seconds. ⬇ flashes red	-	flashes once every 5 seconds		○
6)	**Ballast Error (abnormal Lamp voltage)**	IC6003(pin19) detects the error of the Lamp, then indicates the error when the Lamp is defective.	(flashes green for 140 seconds. ⬇ flashes red	-	flashes twice every 5 seconds		○
7)	**Ballast Error (abnormal temperature)**	IC6003(pin19) detects the error of Ballast C.B.A., then indicates the error when the thermal fuse (F1302) 117℃ (243℉) in Ballast C.B.A. is open.	(flashes green for 140 seconds. ⬇ flashes red	-	flashes 3 times every 5 seconds		○
8)	**Ballast Error (other causes)**	IC6003(pin19) detects the error of Ballast C.B.A., then indicates the error when an inner malfunction of Ballast C.B.A. occurs.	(flashes green for 140 seconds. ⬇ flashes red	-	flashes 4 times every 5 seconds		○
9)	**Abnormal Voltage on 33 V line of Main C.B.A.**	IC6302(pin61) detects +33V line voltage on Main C.B.A., then indicates the error when the voltage becomes less than +10V.	flashes orange 5 times every 5 seconds	flashes once every 5 seconds	flashes once every 5 seconds		○
10)	**Abnormal Voltage on 9 V line of Main C.B.A.**	IC6302(pin64) detects +9V line voltage on Main C.B.A., then indicates the error when the voltage becomes less than +2V.	flashes orange 6 times every 5 seconds	flashes twice every 5 seconds	flashes twice every 5 seconds		○
11)	**Abnormal Voltage on 5 V line of Main C.B.A.**	IC6302(pin63) detects +5V line voltage on Main C.B.A., then indicates the error when the voltage becomes less than +1V.	flashes orange 7 times every 5 seconds	flashes 3 times every 5 seconds	flashes 3 times every 5 seconds		○
12)	**Abnormal Voltage on 3.3 V line of Main C.B.A.**	IC6302(pin7) detects +3.3V line voltage on Main C.B.A., then indicates the error when the voltage becomes less than +1.5V.	flashes orange 8 times every 5 seconds	flashes 4 times every 5 seconds	flashes 4 times every 5 seconds		○
13)	**Abnormal Voltage on -5 V line of Main C.B.A.**	IC6302(pin62) detects -5V line voltage on Main C.B.A., then indicates the error when the voltage becomes more than 0V.	flashes orange 9 times every 5 seconds	flashes 5 times every 5 seconds	flashes 5 times every 5 seconds		○
14)	**Abnormal Voltage on 6.5 V line of Main C.B.A.**	IC6302(pin60) detects +6.5V line voltage on Main C.B.A., then indicates the error when the voltage becomes less than +2V.	flashes orange 10 times every 5 seconds	flashes 6 times every 5 seconds	flashes 6 times every 5 seconds		○
15)	**Temperature Sensor shorted or open**	IC6302(pin2 and 3) detects open or short of the Temperature Sensor (R2821) on Thermistor 2 C.B.A., then indicates the error when Temperature Sensor is open or shorted. (The error is not detected for 4 minutes after Lamp ON.)	-	flashes 3 times every 5 seconds	-		○
16)	**Abnormal Temperature**	IC6302(pin2 and 3) detects the temperature near the Lamp by the Temperature Sensor (R2821) on Thermistor 2 C.B.A., then indicates the error when the temperature exceeds 85℃ (185℉). (The error is not detected for 4 minutes after Lamp ON.)	-	flashes 4 times every 5 seconds	-		○
17)	**Clogged air filter**	IC6003(pin65) detects clogged air filter when the filter detection value exceeds the standard value.	-	flashes 5 times every 5 seconds	-	○	○
18)	**DTV Tuner Power Error**	Corresponding between the DTV Tuner Unit and IC6003 on the Main C.B.A. becomes defective because of power supply error to the DTV Tuner unit.	flashes green all the time	-	-		○
-	**Request for Lamp Replacement**	When accumulated Lamp operation time reaches 10,000 hours, OSD (replacing the Lamp) appears on the screen. Note: The Lamp time is stored in EEPROM (IC6005).	-	-	lights up	○	
-	**Forced cooling**	Indicated during forced cooling.	flashes red for 10 minutes	-	flashes 5 times every 5 seconds		

Note:

1. When any of the above errors has occurred, the LED will flash as shown above.
2. When two or more errors have occurred at the same time, the LED will alternate light up and/or flash patterns as shown above every 5 seconds.
3. Warning OSD appears when the air filter is clogged or accumulated Lamp operation time reaches 10,000 hours.
4. LAMP OFF: The LED will flash immediately after the Lamp comes off.
5. IC6003 and IC6302 are mounted on the Main C.B.A.

How to solve the problem indicated by the Error Indication of LED

Error No.	Symptom	Problem	Possible Solution
1)	Lamp turns off.	Cooling Fan (Fan1, Fan2 and/or Fan3) malfunction.	Are the Fan1, Fan2 and Fan3 operating? NO → Replace the Power C.B.A. Still NG, replace the Projection Unit. Still NG, replace the Main C.B.A. Only the Fan1 stops. → Replace the Projection Unit. Only the Fan2 stops. → Replace the Projection Unit. Only the Fan3 stops. → Replace the Fan3.
2)	Lamp turns off or Lamp does not light up.	Mis-installed the Lamp Cover.	1. Tighten the screw of the Lamp Cover. 2. Replace the Cover SW (SW2911) on the Cover Switch C.B.A. 3. Replace the Main C.B.A. 4. Replace the Projection Unit.
3)	Lamp turns off.	The temperature sensor (R2811) on the Thermistor 1 C.B.A. on the Fan 1 is short or open.	Disconnect P2303 connector on the LCD Drive C.B.A. and check if the resistance between pin1 and pin2 of P2811 on the Thermistor 1 C.B.A. is 5kΩ ~ 200kΩ. If NG, replace the Temperature Sensor (R2811) on the Thermistor 1 C.B.A. Still NG, replace the Projection Unit. Still NG, replace the Main C.B.A. **Note:** The Projection Unit includes LCD Drive C.B.A.
4)	Lamp turns off.	1. Clogged air filter. 2. Blocked air intake. 3. The surrounding temperature of the place of use may be too high.	Clean the Air Filters on the Projection Unit.
5)	Lamp turns off or Lamp does not light up.	1. The Lamp is not cooled off. 2. Thermal Fuse Unit (115˚C (239˚F)) is defective (open). 3. The Lamp is defective(crack). 4. The Lamp voltage becomes more over 130V or less than 30V. 5. The Ballast C.B.A. is defective. 6. The Main C.B.A. is defective.	1. Wait until the Lamp has cooled off. 2. Confirm that the Thermal Fuse Unit (115˚C(239˚F)) on the Lamp House is not open. 3. Replace the Lamp. 4. Replace the Ballast C.B.A. 5. Replace the Main C.B.A.
6)	Lamp does not light up.	Lamp voltage is not correct due to short of the Lamp.	Replace the Lamp.
7)	Lamp turns off due to abnormally high internal temperature.	Thermal fuse on the Ballast C.B.A. is open due to abnormal temperature rise.	Replace the Ballast C.B.A.
8)	Lamp does not light up.	The Ballast C.B.A. is defective.	If the Lamp does not light up after attempting turning on the power 2 or 3 times, replace the Ballast C.B.A.
9)	Lamp turns off or Lamp does not light up.	+33V line on the Main C.B.A. error.	1. Replace the Power C.B.A. 2. Replace the Main C.B.A.
10)	Lamp turns off or Lamp does not light up.	+9V line on the Main C.B.A. error.	1. Replace the Power C.B.A. 2. Replace the Main C.B.A. 3. Replace the Rear Jack C.B.A.
11)	Lamp turns off or Lamp does not light up.	+5V line on the Main C.B.A. error.	1. Replace the Power C.B.A. 2. Replace the Main C.B.A. 3. Replace the Rear Jack C.B.A. 4. Replace the Tuner C.B.A.
12)	Lamp turns off or Lamp does not light up.	+3.3V line on the Main C.B.A. error.	1. Replace the Power C.B.A. 2. Replace the Main C.B.A.
13)	Lamp turns off or Lamp does not light up.	-5V line on the Main C.B.A. error.	1. Replace the Power C.B.A. 2. Replace the Main C.B.A. 3. Replace the Rear Jack C.B.A.
14)	Lamp turns off or Lamp does not light up.	+6.5V line on the Main C.B.A. error.	1. Replace the Power C.B.A. 2. Replace the Main C.B.A.
15)	Lamp turns off.	The temperature sensor (R2821) on the Thermistor 2 C.B.A. on the Lamp House is short or open.	Disconnect P2304 connector on the LCD Drive C.B.A. and check if the resistance between pin1 and pin2 of P2821 on the Thermistor 2 C.B.A. is 5kΩ ~ 1MΩ. If NG, replace the Temperature Sensor (R2821) on the Thermistor 2 C.B.A. Still NG, replace the Projection Unit. Still NG, replace the Main C.B.A. **Note:** The Projection Unit includes LCD Drive C.B.A.
16)	Lamp turns off.	1. Clogged air filter. 2. Blocked air intake. 3. The surrounding temperature of the place of use may be too high.	Clean the Air Filters on the Projection Unit.
17)	OSD (Cleaning the Air Filter) appears on the screen.	Clogged air filter.	1. Clean the Air Filters on the Projection Unit. 2. Replace the Projection Unit. 3. Replace the Main C.B.A.
18)	Lamp does not light up.	1. The Digital Tuner Power is defective. 2. The DTV Tuner Unit is defective. 3. The Main C.B.A. is defective. 4. The Tuner C.B.A. is defective.	1. Replace the Digital Tuner Power C.B.A. 2. Replace the DTV Tuner Unit. 3. Replace the Main C.B.A. 4. Replace the Tuner C.B.A.

Lamp turns off or Lamp does not light up

Note:
Before performing the troubleshooting, confirm that all connector cables in the unit are connected to connectors correctly.

1) POWER LED flashes orange once every 5 seconds. → Are the Fan1, Fan2 and Fan3 operating?
- NO → Replace the Power C.B.A. Still NG, replace the Projection Unit. Still NG, replace the Main C.B.A.
- Only the Fan1 stops. → Replace the Projection Unit.
- Only the Fan2 stops. → Replace the Projection Unit.
- Only the Fan3 stops. → Replace the Fan3.

2) POWER LED flashes orange twice every 5 seconds. → Tighten the screw of the Lamp Cover. Still NG, replace the Cover SW (SW2911) on the Cover Switch C.B.A. Still NG, replace the Main C.B.A. Still NG, replace the Projection Unit.

3) TEMP LED flashes once every 5 seconds. → Disconnect P2303 connector on the LCD Drive C.B.A. and check if the resistance between pin1 and pin2 of P2811 on the Thermistor 1 C.B.A. is 5kΩ ~ 200kΩ. If NG, replace the Temperature Sensor (R2811) on the Thermistor 1 C.B.A. Still NG, replace the Projection Unit. Still NG, replace the Main C.B.A.

4) TEMP LED flashes twice every 5 seconds. → Clean the Air Filters on the Projection Unit.

5) POWER LED flashes red. (flashes green 140 seconds. ➡ flashes red.) LAMP LED flashes once every 5 seconds. → Wait until the Lamp has cooled off. Confirm that the Thermal Fuse Unit (115˚C(239˚F)) is not open. Still NG, replace the Lamp. Still NG, replace the Ballast C.B.A. Still NG, replace the Main C.B.A.

6) POWER LED flashes red. (flashes green 140 seconds. ➡ flashes red.) LAMP LED flashes twice every 5 seconds. → Replace the Lamp.

7) POWER LED flashes red. (flashes green 140 seconds. ➡ flashes red.) LAMP LED flashes 3 times every 5 seconds. → Replace the Ballast C.B.A.

8) POWER LED flashes red. (flashes green 140 seconds. ➡ flashes red.) LAMP LED flashes 4 times every 5 seconds. → If the Lamp does not light up after attempting turning on the power 2 or 3 times, replace the Ballast C.B.A.

9) POWER LED flashes orange 5 times every 5 seconds. TEMP LED flashes once every 5 seconds. LAMP LED flashes once every 5 seconds. → Replace the Power C.B.A. Still NG, replace the Main C.B.A. Still NG, replace the Tuner C.B.A.

10) POWER LED flashes orange 6 times every 5 seconds. TEMP LED flashes 2 times every 5 seconds. LAMP LED flashes 2 times every 5 seconds. → Replace the Power C.B.A. Still NG, replace the Main C.B.A.

11) POWER LED flashes orange 7 times every 5 seconds. TEMP LED flashes 3 times every 5 seconds. LAMP LED flashes 3 times every 5 seconds. → Replace the Power C.B.A. Still NG, replace the Main C.B.A. Still NG, replace the Rear Jack C.B.A. Still NG, replace the Tuner C.B.A.

12) POWER LED flashes orange 8 times every 5 seconds. TEMP LED flashes 4 times every 5 seconds. LAMP LED flashes 4 times every 5 seconds. → Replace the Power C.B.A. Still NG, replace the Main C.B.A.

13) POWER LED flashes orange 9 times every 5 seconds. TEMP LED flashes 5 times every 5 seconds. LAMP LED flashes 5 times every 5 seconds. → Replace the Power C.B.A. Still NG, replace the Main C.B.A. Still NG, replace the Rear Jack C.B.A.

14) POWER LED flashes orange 10 times every 5 seconds. TEMP LED flashes 6 times every 5 seconds. LAMP LED flashes 6 times every 5 seconds. → Replace the Power C.B.A. Still NG, replace the Main C.B.A.

15) TEMP LED flashes 3 times every 5 seconds. → Remove P2304 connector on the LCD Drive C.B.A. and check if the resistance between pin1 and pin2 of P2821 on the Thermistor 2 C.B.A. is 5kΩ ~ 1MΩ. If NG, replace the Temperature Sensor (R2821) on the Thermistor 2 C.B.A. Still NG, replace the Projection Unit. Still NG, replace the Main C.B.A.

16) TEMP LED flashes 4 times every 5 seconds. → Clean the Air Filters on the Projection Unit.

17) TEMP LED flashes 5 times every 5 seconds. → Clean the Air Filters. Still NG, replace the Projection Unit. Still NG, replace the Main C.B.A.

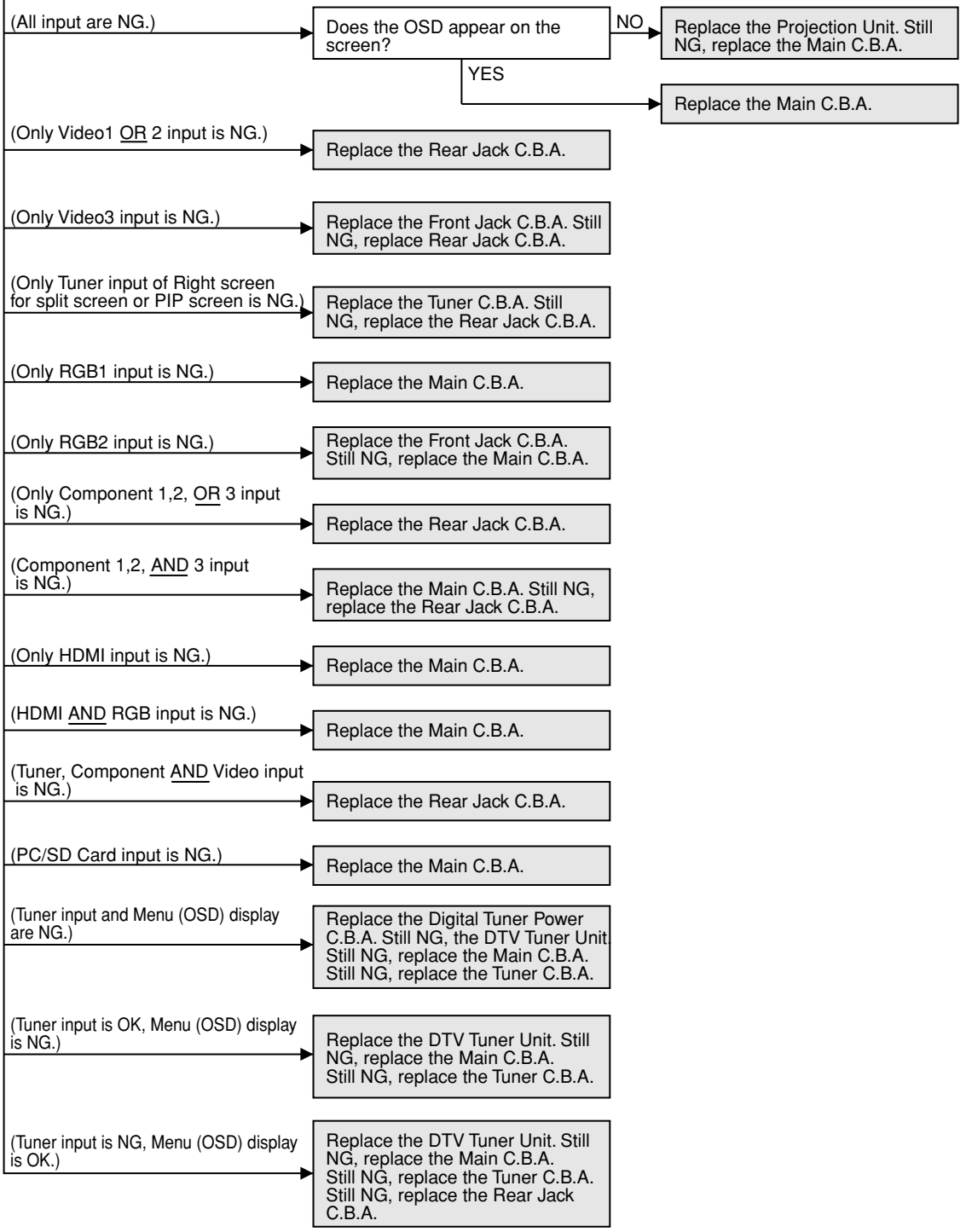
18) POWER LED flashes green all the time. → Replace the Digital Tuner Power C.B.A. Still NG, replace the DTV Tuner Unit. Still NG, replace the Main C.B.A. Still NG, replace the Tuner C.B.A.

POWER LED does not flashes or does not light up. → Replace the Power C.B.A. or the Main C.B.A.

No picture or abnormal picture

ABNORMAL PICTURE:
- **No Color Picture (Black and White picture)**
- **Abnormal Color Picture**
- **No Synchronization Picture**
- **Dark Picture**

Check that there is no picture or abnormal picture on the screen from all input terminals.


(All input are NG.)
Does the OSD appear on the screen?
NO
Replace the Projection Unit. Still NG, replace the Main C.B.A.
YES
Replace the Main C.B.A.
(Only Video1 OR 2 input is NG.)
Replace the Rear Jack C.B.A.
(Only Video3 input is NG.)
Replace the Front Jack C.B.A. Still NG, replace Rear Jack C.B.A.
(Only Tuner input of Right screen for split screen or PIP screen is NG.)
Replace the Tuner C.B.A. Still NG, replace the Rear Jack C.B.A.
(Only RGB1 input is NG.)
Replace the Main C.B.A.
(Only RGB2 input is NG.)
Replace the Front Jack C.B.A. Still NG, replace the Main C.B.A.
(Only Component 1,2, OR 3 input is NG.)
Replace the Rear Jack C.B.A.
(Component 1,2, AND 3 input is NG.)
Replace the Main C.B.A. Still NG, replace the Rear Jack C.B.A.
(Only HDMI input is NG.)
Replace the Main C.B.A.
(HDMI AND RGB input is NG.)
Replace the Main C.B.A.
(Tuner, Component AND Video input is NG.)
Replace the Rear Jack C.B.A.
(PC/SD Card input is NG.)
Replace the Main C.B.A.
(Tuner input and Menu (OSD) display are NG.)
Replace the Digital Tuner Power C.B.A. Still NG, the DTV Tuner Unit Still NG, replace the Main C.B.A. Still NG, replace the Tuner C.B.A.
(Tuner input is OK, Menu (OSD) display is NG.)
Replace the DTV Tuner Unit. Still NG, replace the Main C.B.A. Still NG, replace the Tuner C.B.A.
(Tuner input is NG, Menu (OSD) display is OK.)
Replace the DTV Tuner Unit. Still NG, replace the Main C.B.A. Still NG, replace the Tuner C.B.A. Still NG, replace the Rear Jack C.B.A.

Note:
Menu (OSD) is produced by the DTV Tuner Unit.

No sound from built-in both L-CH and R-CH Speakers

Press "MENU" button on the Remote Control
Then, select "Audio" in MENU screen.

Check if "Speakers" in Other Adjust is set to "ON."

NO → Select "ON."

YES

Check that there is an audio signal to the Audio Out Terminal from all input terminals.

- (All input are NG.) → Replace the Rear Jack C.B.A.
- (Only Audio1, 2, Component1, 2, OR 3 input is NG.) → Replace the Rear Jack C.B.A.
- (Only Audio3 input is NG.) → Replace the Front Jack C.B.A. Still NG, replace the Rear Jack C.B.A.
- (Only Tuner input is NG.) → Replace the DTV Tuner Unit. Still NG, replace the Tuner C.B.A. Still NG, replace the Rear Jack C.B.A.
- (Only RGB1 input is NG.) → Replace the Main C.B.A.
- (Only RGB2 input is NG.) → Replace the Front Jack C.B.A. Still NG, replace the Main C.B.A.
- (Only HDMI input is NG.) → Replace the Main C.B.A.

YES

Replace the Audio Amp C.B.A. Stll NG, Replace the Rear Jack C.B.A. Still NG, Replace the Power C.B.A.

No sound from built-in L-CH Speaker only

Press "MENU" button on the Remote Control.
Then, select "Balance."

Does the "Balance" in AUDIO screen becomes center position?

NO → Set to the center position.

YES

Replace the L-CH Speaker.

No sound from built-in R-CH Speaker only

Press "MENU" button on the Remote Control
Then, select "Balance."

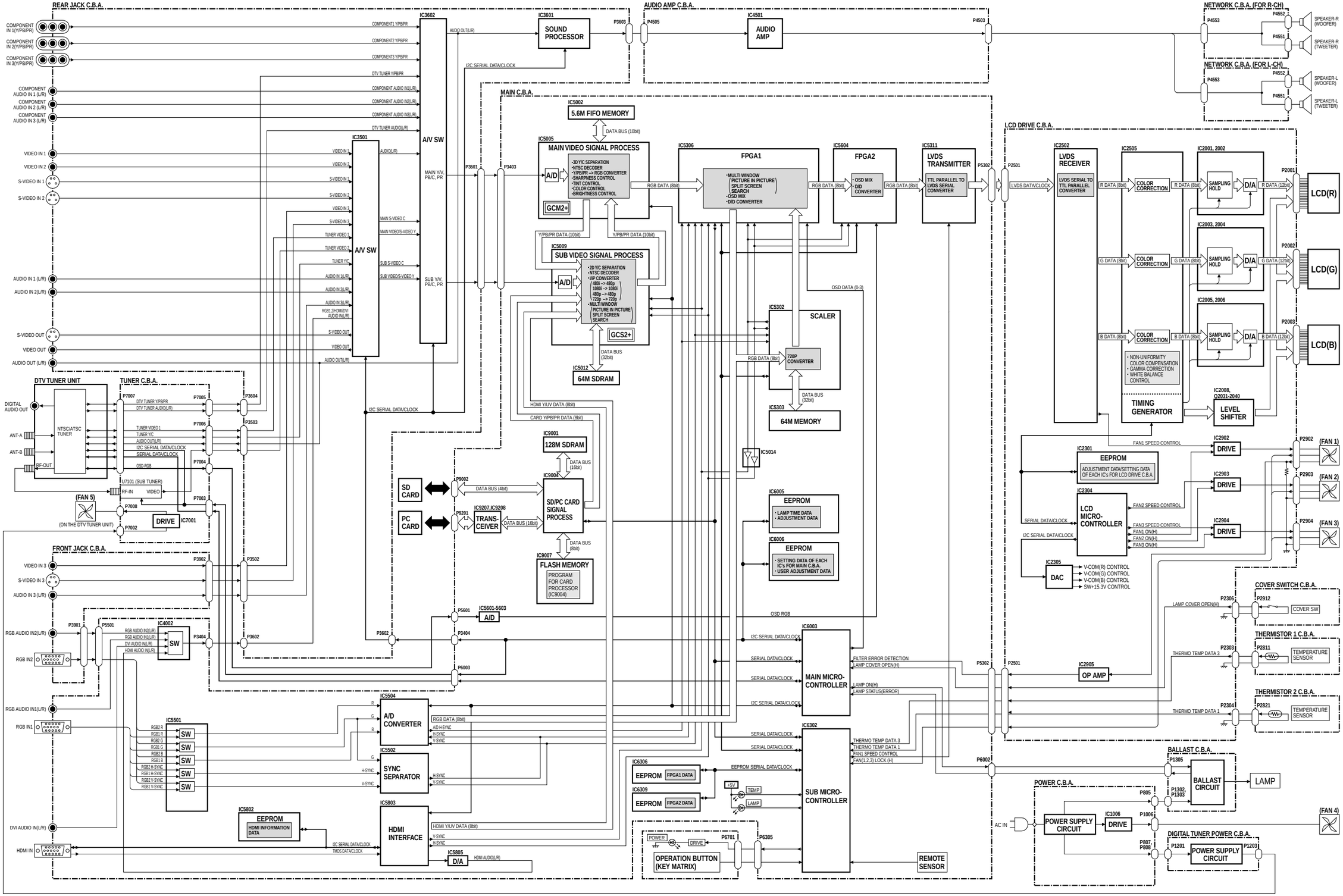
Does the "Balance" in Audio screen becomes center position?

NO → Set to the center position.

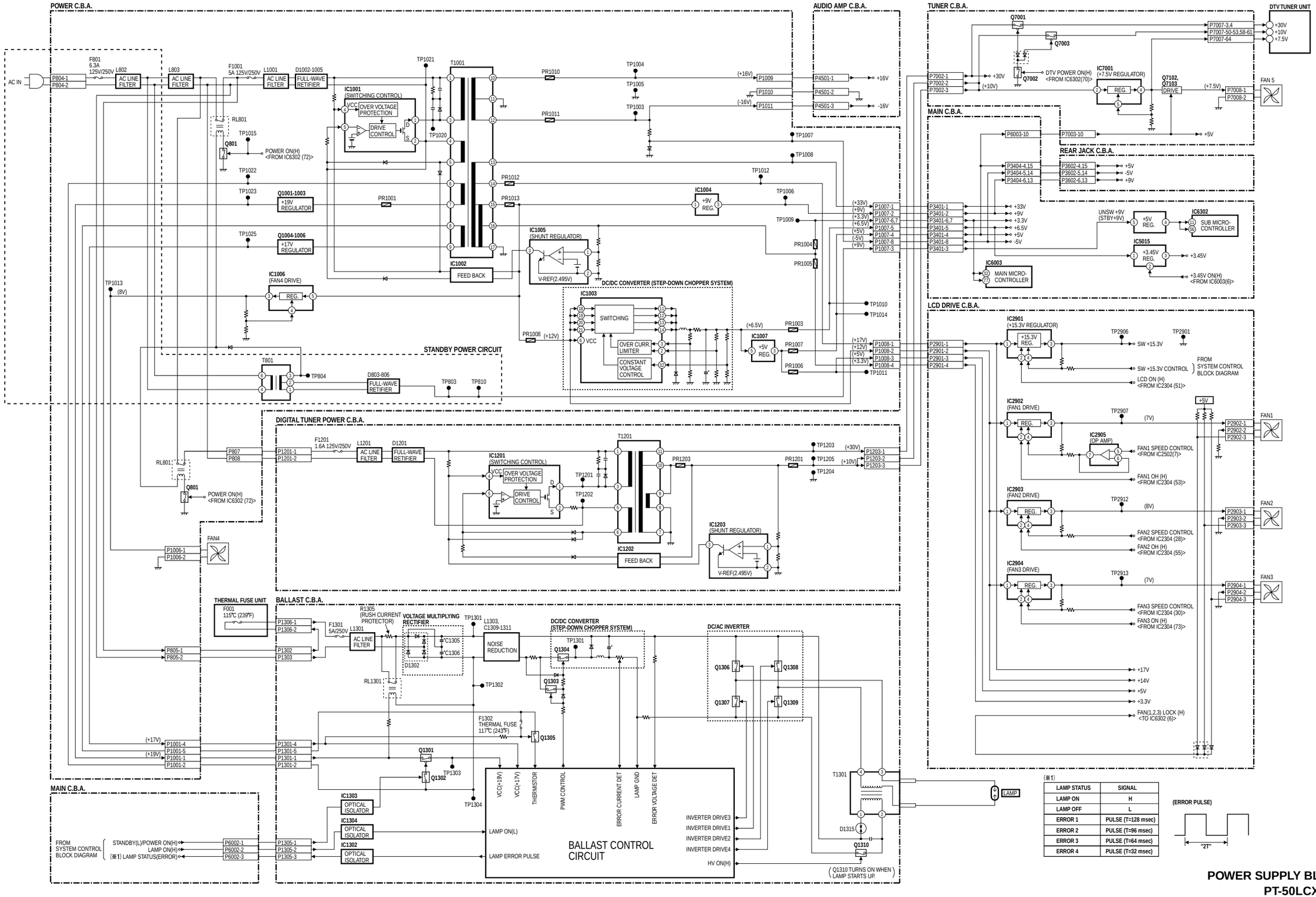
YES

Replace the R-CH Speaker.

OVERALL BLOCK DIAGRAM

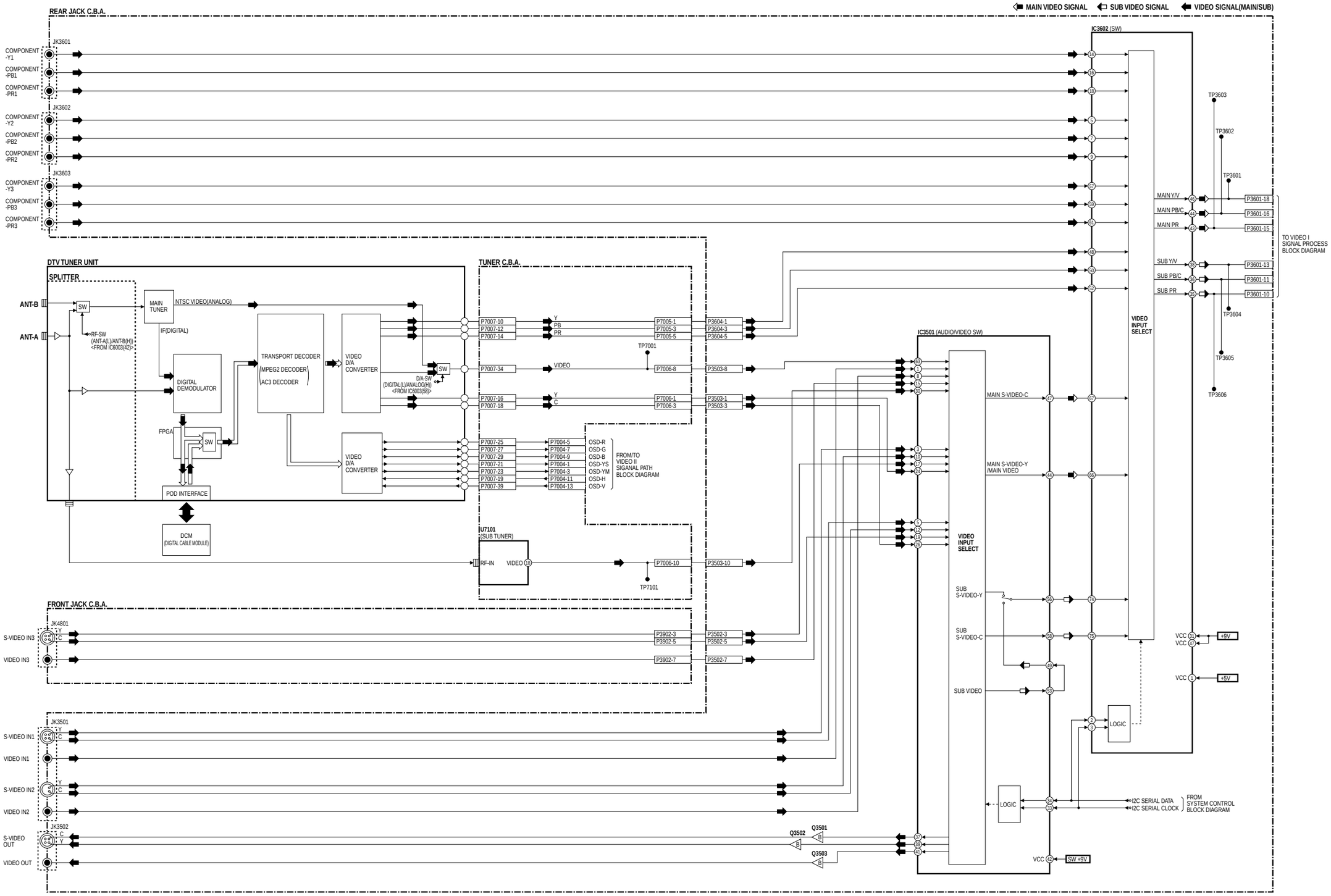


POWER SUPPLY BLOCK DIAGRAM

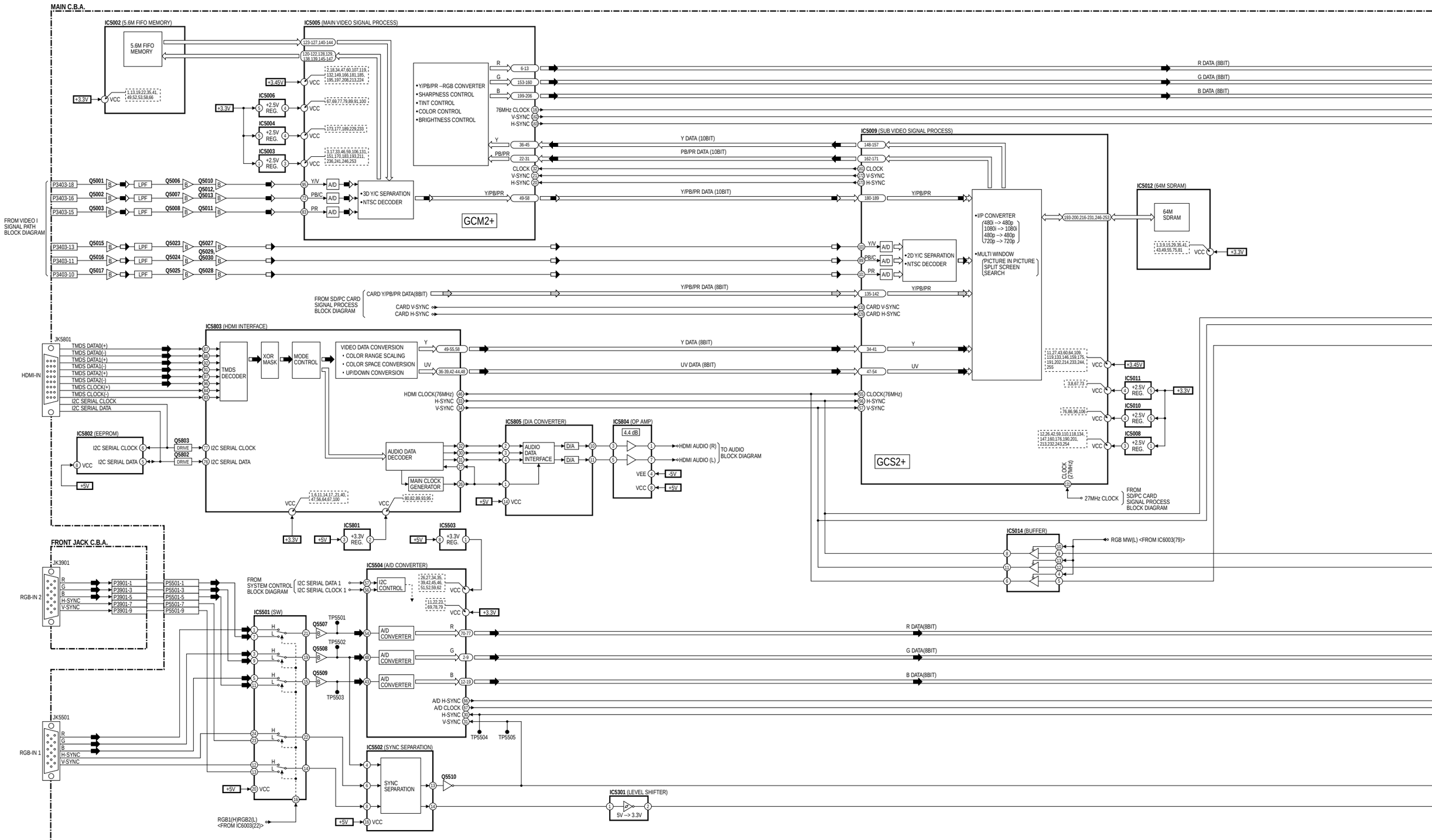

POWER C.B.A.
AUDIO AMP C.B.A.
TUNER C.B.A.
DTV TUNER UNIT
MAIN C.B.A.
REAR JACK C.B.A.
LCD DRIVE C.B.A.
DIGITAL TUNER POWER C.B.A.
BALLAST C.B.A.
THERMAL FUSE UNIT
STANDBY POWER CIRCUIT
DC/DC CONVERTER (STEP-DOWN CHOPPER SYSTEM)
BALLAST CONTROL CIRCUIT
AC IN
IC1001 (SWITCHING CONTROL)
IC1002 FEED BACK
IC1004 +9V REG.
IC1005 (SHUNT REGULATOR)
IC1006 (FAN4 DRIVE)
IC1007 +5V REG.
IC1201 (SWITCHING CONTROL)
IC1202 FEED BACK
IC1203 (SHUNT REGULATOR)
IC1303 OPTICAL ISOLATOR
IC1304 OPTICAL ISOLATOR
IC1302 OPTICAL ISOLATOR
IC2901 (+15.3V REGULATOR)
IC2902 (FAN1 DRIVE)
IC2903 (FAN2 DRIVE)
IC2904 (FAN3 DRIVE)
IC2905 (OP AMP)
IC7001 (+7.5V REGULATOR)
IC6302 SUB MICRO-CONTROLLER
IC6003 MAIN MICRO-CONTROLLER
IC5015 +3.45V REG.
Q1001-1003 +19V REGULATOR
Q1004-1006 +17V REGULATOR
Q801 POWER ON(H) <FROM IC6302 (72)>
Q7001 Q7002 Q7003 Q7102, Q7103 DRIVE
Q1301 Q1302 Q1303 Q1304 Q1305 Q1306 Q1307 Q1308 Q1309 Q1310
T1001 T1201 T1301 T801
F801 6.3A 125V/250V
F1001 5A 125V/250V
F1201 1.6A 125V/250V
F001 115℃ (239℉)
F1301 5A/250V
F1302 THERMAL FUSE 117℃ (243℉)
L802 AC LINE FILTER
L803 AC LINE FILTER
L1001 AC LINE FILTER
L1201 AC LINE FILTER
L1301 AC LINE FILTER
L1303, C1309-1311 NOISE REDUCTION
D1002-1005 FULL-WAVE RETIFIER
D803-806 FULL-WAVE RETIFIER
D1201 FULL-WAVE RETIFIER
D1302 VOLTAGE MULTIPLYING RECTIFIER
D1315
RL801 RL1301
R1305 (RUSH CURRENT PROTECTOR)
V-REF(2.495V)
OVER VOLTAGE PROTECTION
DRIVE CONTROL
OVER CURR. LIMITER
CONSTANT VOLTAGE CONTROL
SWITCHING
VCC
FAN1 FAN2 FAN3 FAN4 FAN 5
P804-1 P804-2
P807 P808
P1009 P1010 P1011
P4501-1 P4501-2 P4501-3
P1007-1 P1007-2 P1007-6,7 P1007-5 P1007-4 P1007-8 P1007-3
P1008-1 P1008-2 P1008-3 P1008-4
P1001-4 P1001-5 P1001-1 P1001-2
P1006-1 P1006-2
P1201-1 P1201-2
P1203-1 P1203-2 P1203-3
P1306-1 P1306-2
P1302 P1303
P805-1 P805-2
P1301-4 P1301-5 P1301-1 P1301-2
P6002-1 P6002-2 P6002-3
P1305-1 P1305-2 P1305-3
P7002-1 P7002-2 P7002-3
P7007-3,4 P7007-50-53,58-61 P7007-64
P6003-10 P7003-10
P3404-4,15 P3404-5,14 P3404-6,13
P3602-4,15 P3602-5,14 P3602-6,13
P3401-1 P3401-2 P3401-6,7 P3401-5 P3401-4 P3401-8 P3401-3
P2901-1 P2901-2 P2901-3 P2901-4
P2902-1 P2902-2 P2902-3
P2903-1 P2903-2 P2903-3
P2904-1 P2904-2 P2904-3
P7008-1 P7008-2
TP1001 TP1002 TP1003 TP1004 TP1005 TP1006 TP1007 TP1008 TP1009 TP1010 TP1011 TP1012 TP1013 TP1014 TP1015 TP1020 TP1021 TP1022 TP1023 TP1025 TP1201 TP1202 TP1203 TP1204 TP1205 TP1301 TP1302 TP1303 TP1304 TP2901 TP2906 TP2907 TP2912 TP2913 TP803 TP804 TP810
PR1001 PR1003 PR1004 PR1005 PR1006 PR1007 PR1008 PR1010 PR1011 PR1012 PR1013 PR1201 PR1203
(+33V) (+9V) (+3.3V) (+6.5V) (+5V) (-5V) (+17V) (+14V) (+12V) (+10V) (+7.5V) (+6.5V) (8V) (7V) (-16V) (+16V) (+30V)
+33V +9V +3.3V +6.5V +5V -5V +30V +10V +7.5V +5V -5V +9V +3.45V +3.45V ON(H) <FROM IC6003(6)> +17V +14V +5V +3.3V
DTV POWER ON(H) <FROM IC6302(70)>
UNSW +9V (STBY+9V)
SW +15.3V SW +15.3V CONTROL LCD ON (H) <FROM IC2304 (51)>
FROM SYSTEM CONTROL BLOCK DIAGRAM
FAN1 SPEED CONTROL <FROM IC2502(7)> FAN1 OH (H) <FROM IC2304 (53)>
FAN2 SPEED CONTROL <FROM IC2304 (28)> FAN2 OH (H) <FROM IC2304 (55)>
FAN3 SPEED CONTROL <FROM IC2304 (30)> FAN3 ON (H) <FROM IC2304 (73)>
FAN(1,2,3) LOCK (H) <TO IC6302 (6)>
STANDBY(L)/POWER ON(H) LAMP ON(H) (※1) LAMP STATUS(ERROR)
VCC(+19V) VCC(+17V) THERMISTOR PWM CONTROL ERROR CURRENT DET LAMP GND ERROR VOLTAGE DET
LAMP ON(L) LAMP ERROR PULSE
INVERTER DRIVE3 INVERTER DRIVE1 INVERTER DRIVE2 INVERTER DRIVE4 HV ON(H)
Q1310 TURNS ON WHEN LAMP STARTS UP.
LAMP
(※1)
LAMP STATUS | SIGNAL
LAMP ON | H
LAMP OFF | L
ERROR 1 | PULSE (T=128 msec)
ERROR 2 | PULSE (T=96 msec)
ERROR 3 | PULSE (T=64 msec)
ERROR 4 | PULSE (T=32 msec)
(ERROR PULSE)
"2T"

POWER SUPPLY BLOCK DIAGRAM
PT-50LCX63/PT-60LCX63

VIDEO SIGNAL PATH I BLOCK DIAGRAM

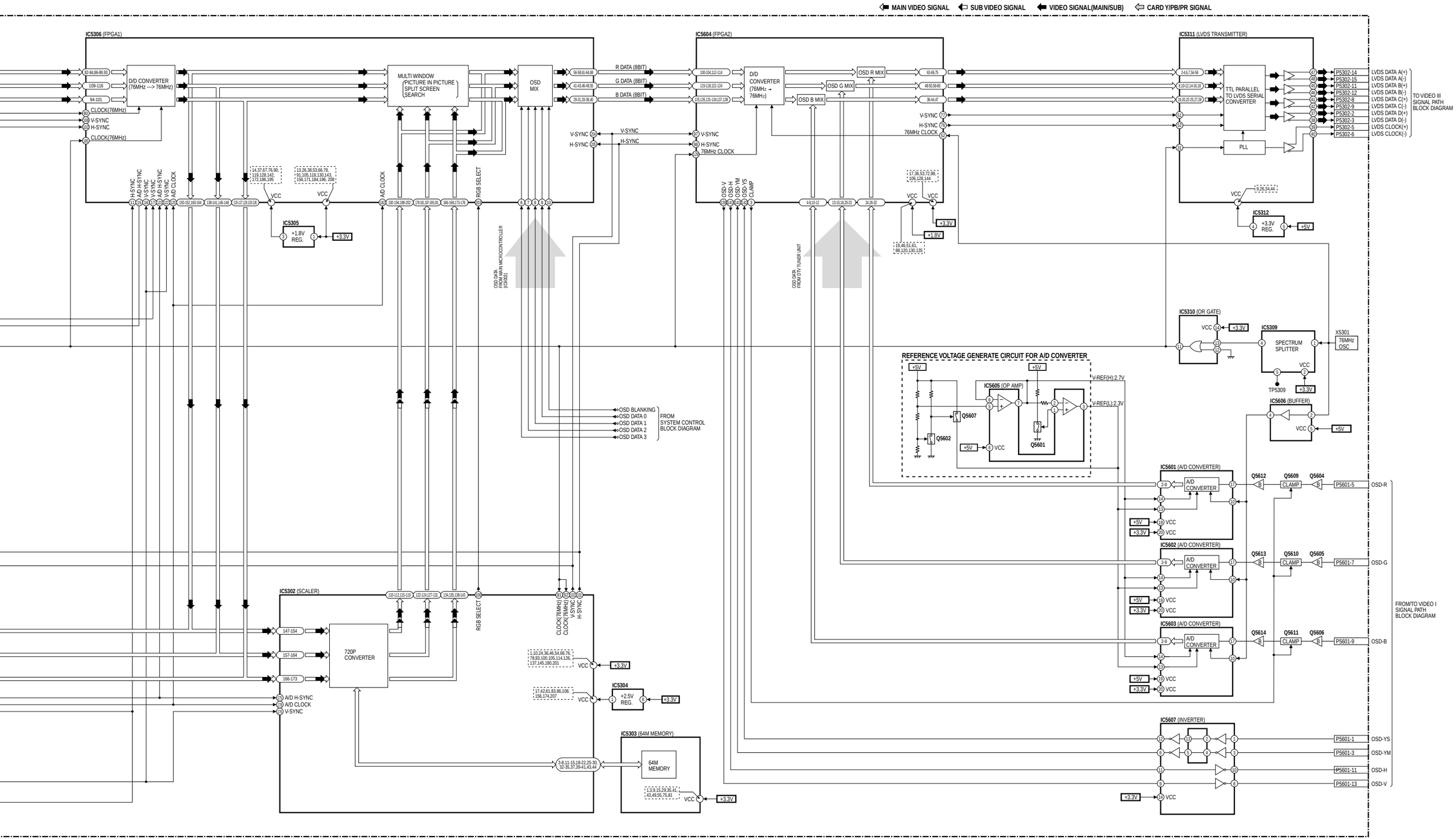


VIDEO SIGNAL PATH II BLOCK DIAGRAM (1/2)

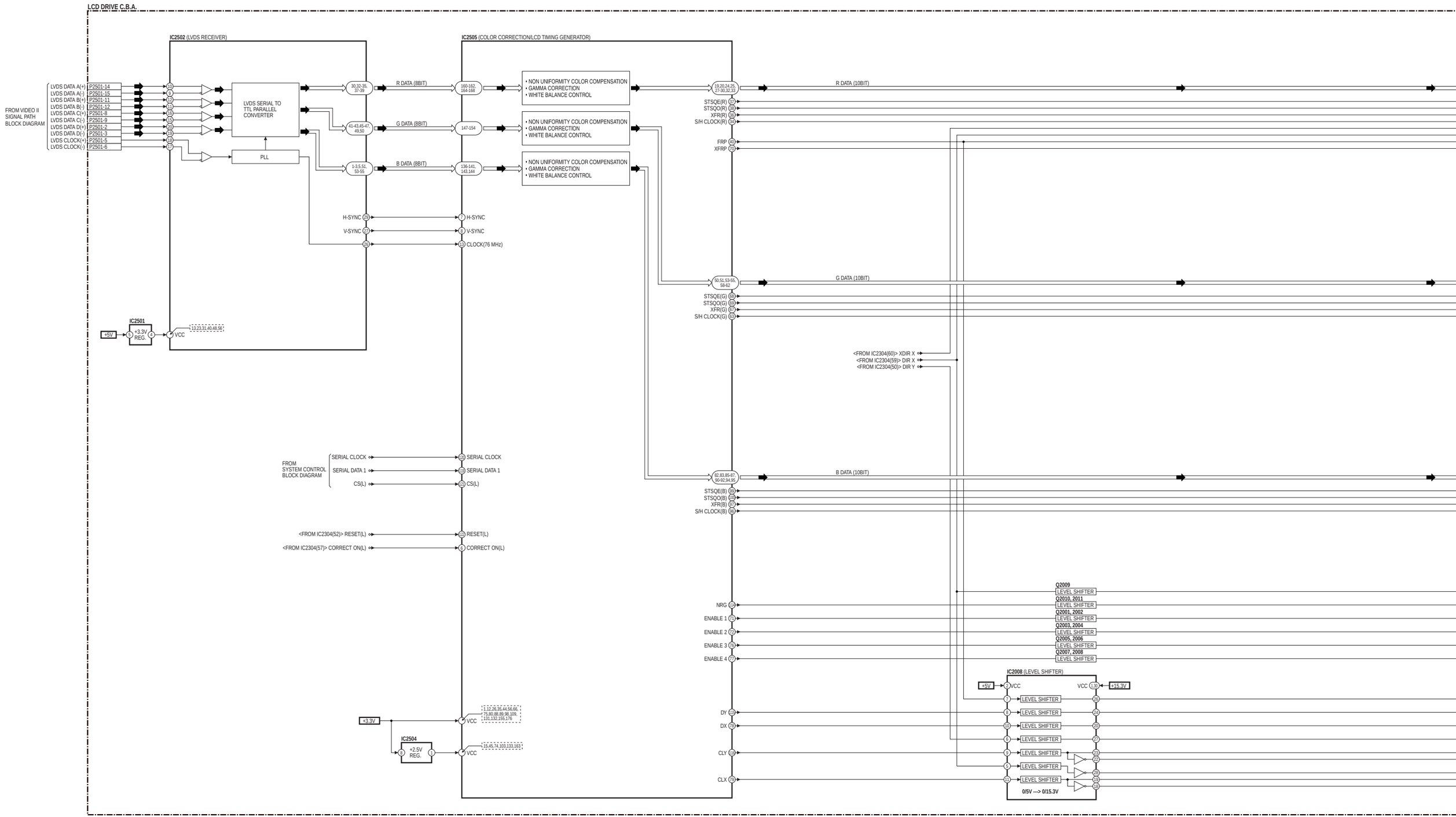


VIDEO SIGNAL PATH II BLOCK DIAGRAM (1/2)
PT-50LCX63/PT-60LCX63

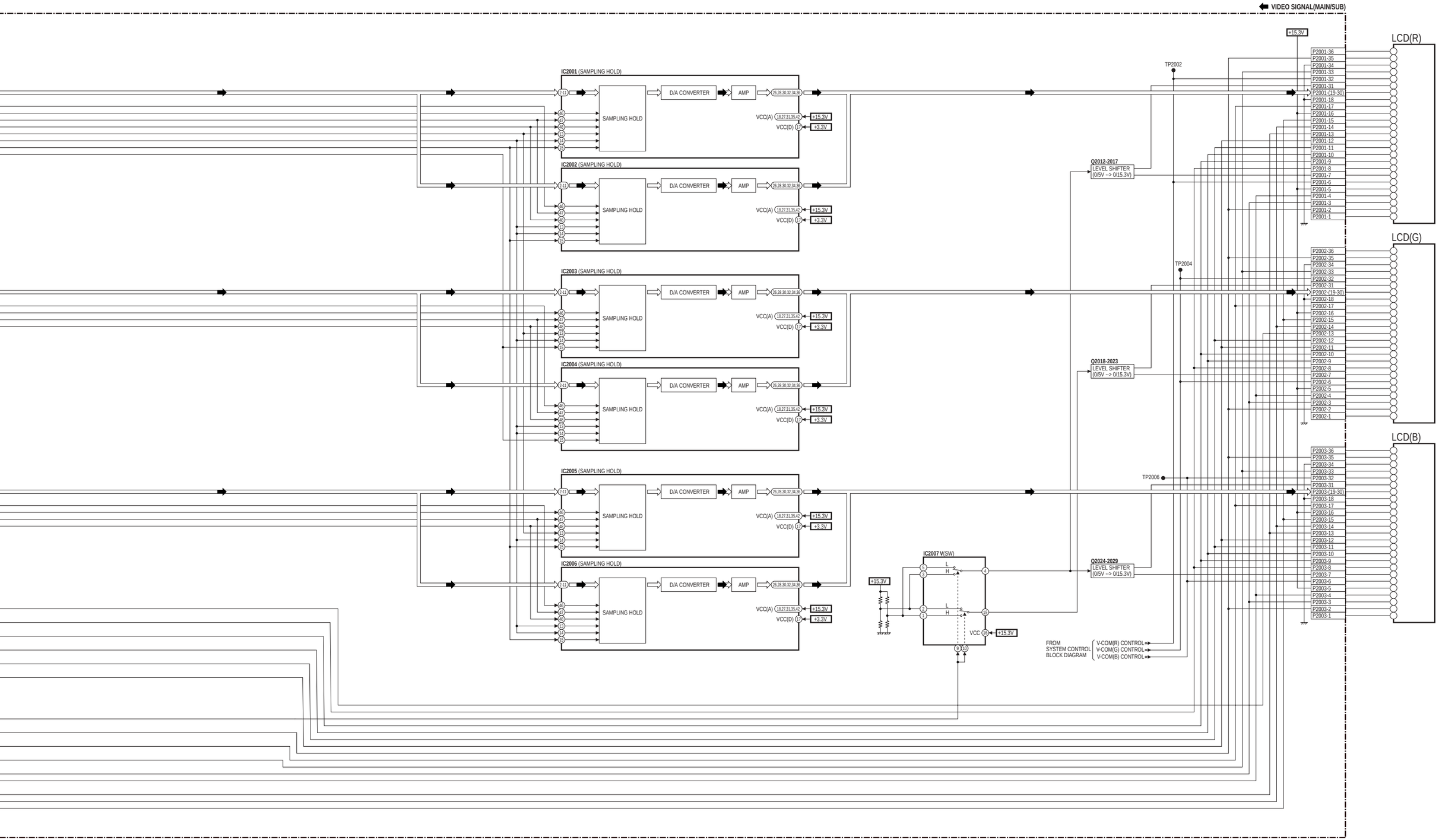
VIDEO SIGNAL PATH II BLOCK DIAGRAM (2/2)



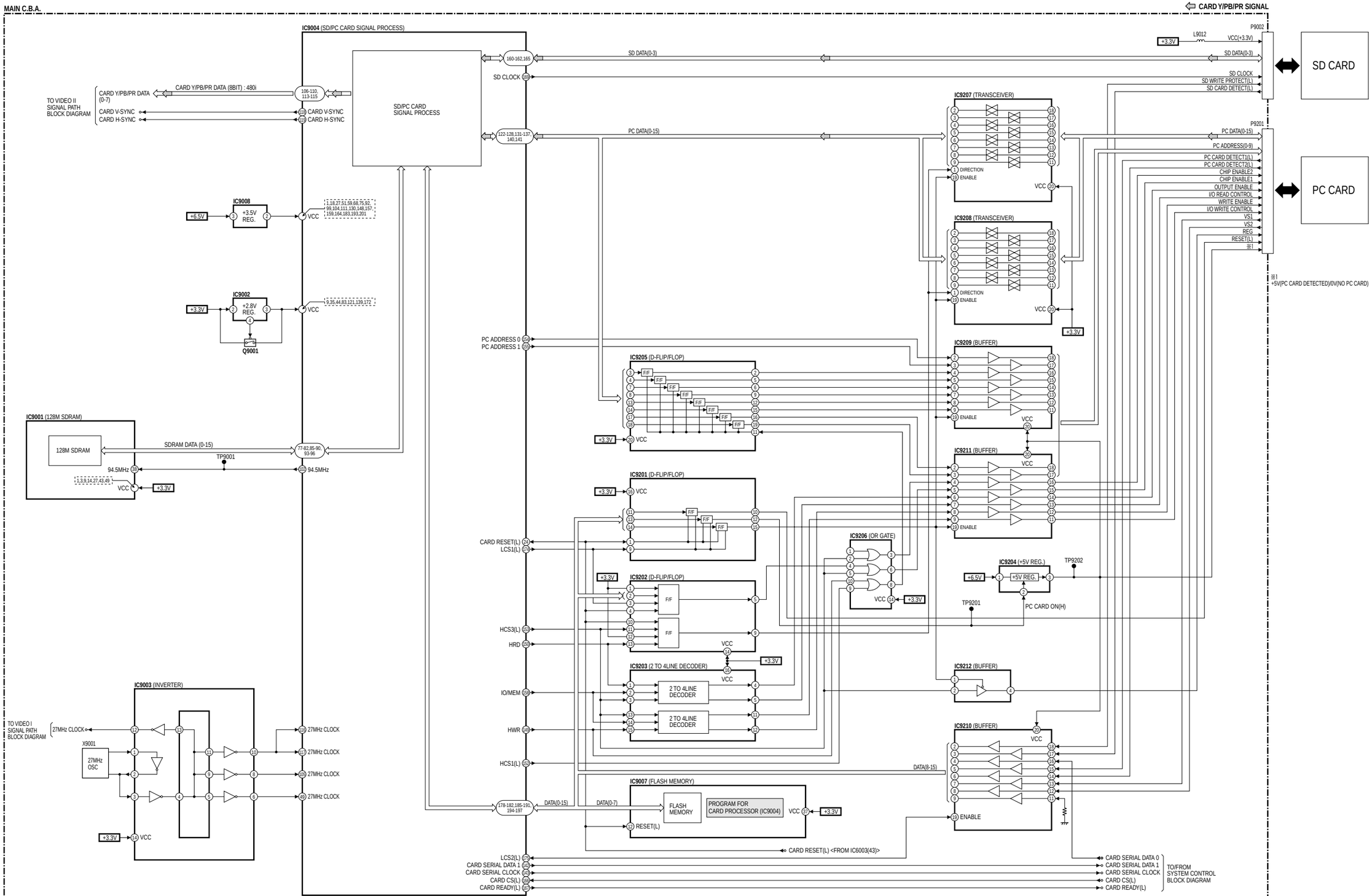
VIDEO SIGNAL PATH III BLOCK DIAGRAM (1/2)



VIDEO SIGNAL PATH III BLOCK DIAGRAM (2/2)

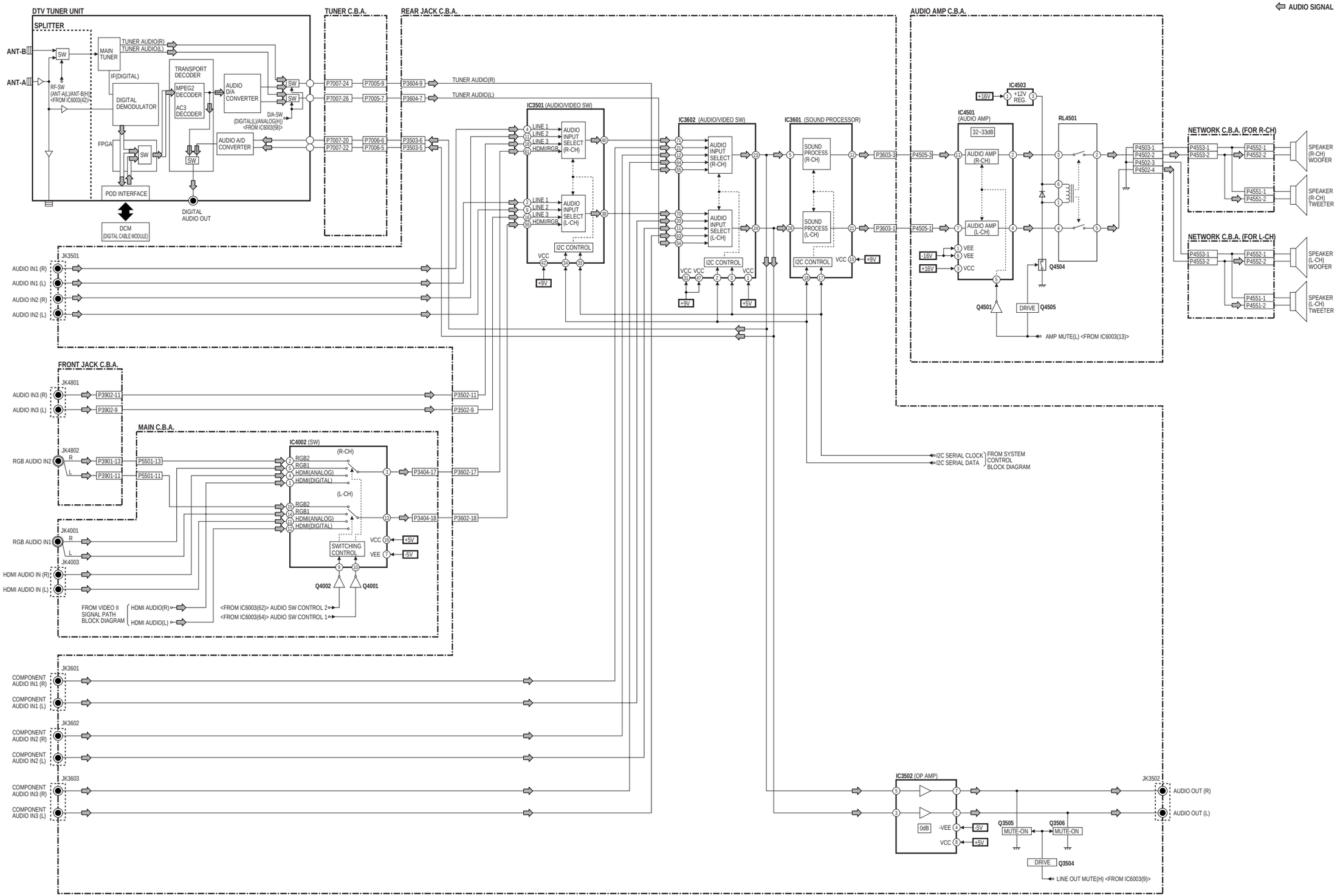


SD/PC CARD SIGNAL PROCESS BLOCK DIAGRAM



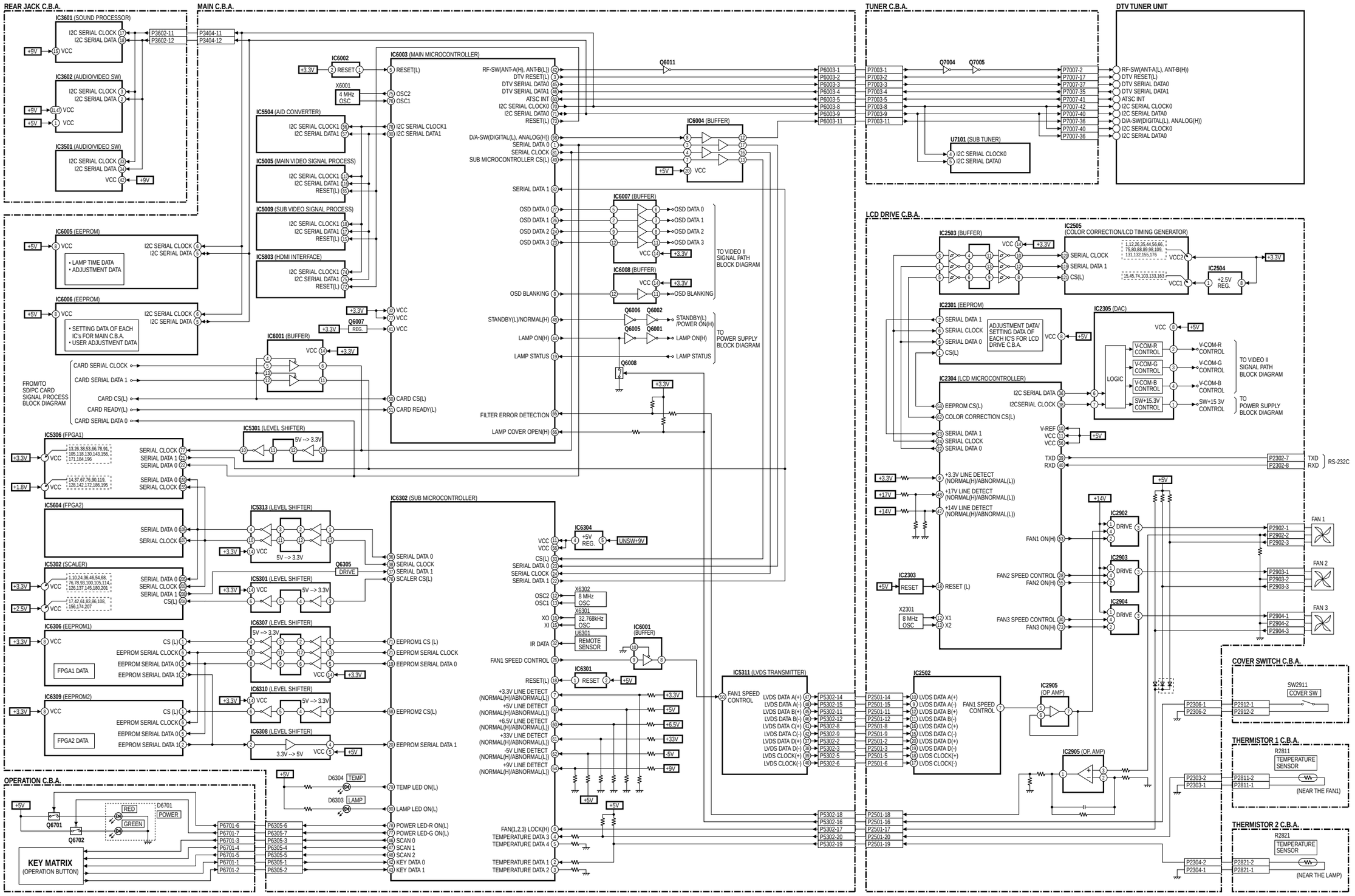
SD/PC CARD SIGNAL PROCESS BLOCK DIAGRAM
PT-50LCX63/PT-60LCX63

AUDIO SIGNAL PATH BLOCK DIAGRAM



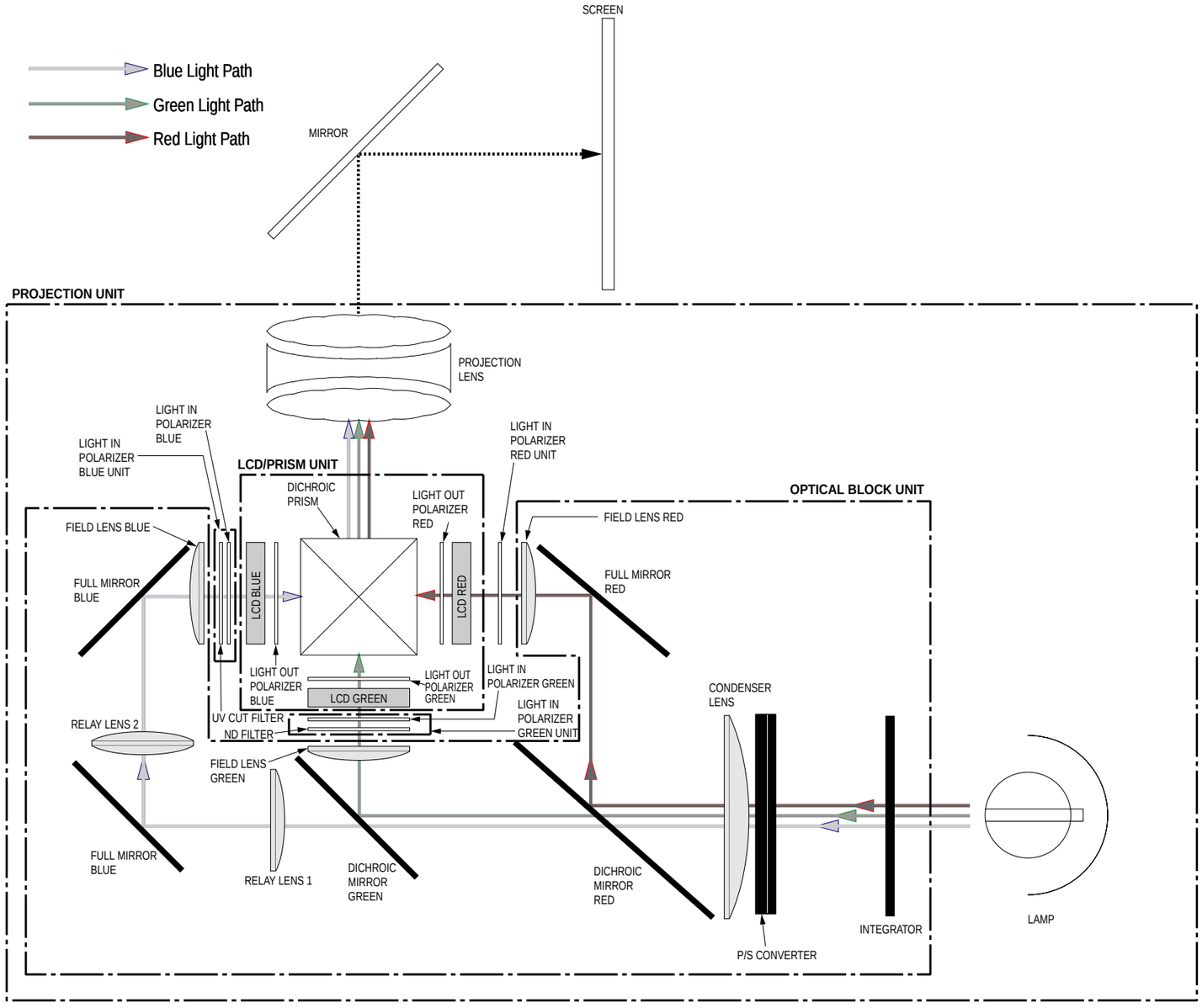
AUDIO SIGNAL PATH BLOCK DIAGRAM
PT-50LCX63/PT-60LCX63

SYSTEM CONTROL BLOCK DIAGRAM



SYSTEM CONTROL BLOCK DIAGRAM
PT-50LCX63/PT-60LCX63

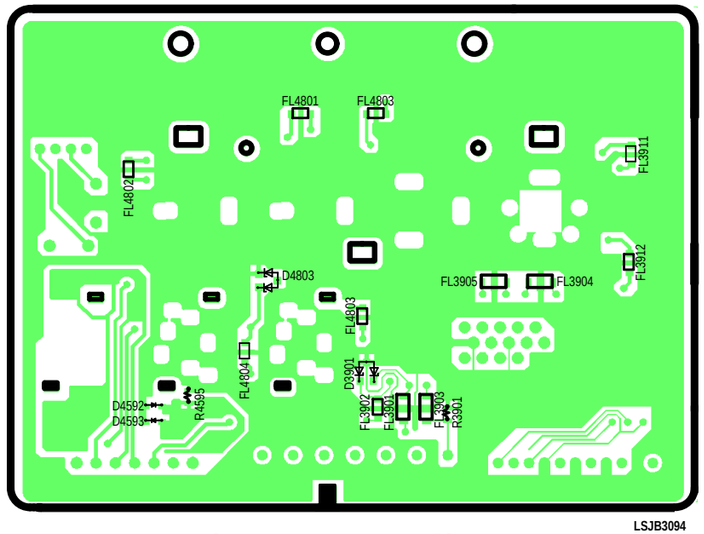
OPTICAL BLOCK DIAGRAM



FRONT JACK C.B.A. LSEP3094A

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

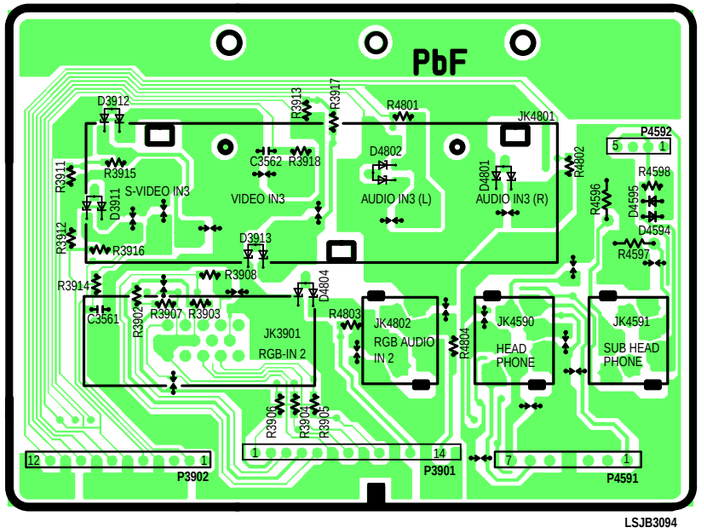
(COMPONENT SIDE)



LSJB3094

(DUAL PATTERNS)

(FOIL SIDE)

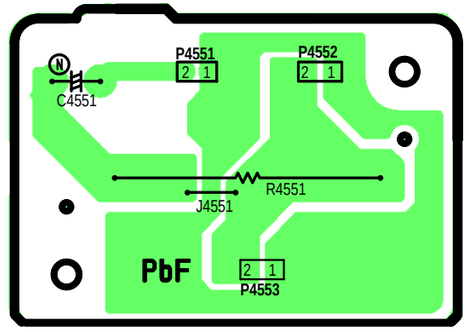


LSJB3094

(DUAL PATTERNS)

NETWORK C.B.A. LSEP3097A

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

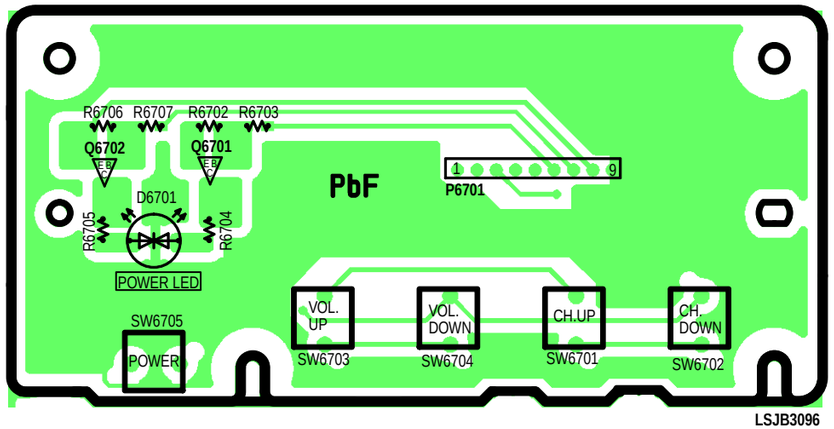


LSJB3097

OPERATION C.B.A. LSEP3096A

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

(FOIL SIDE)



LSJB3096

(DUAL PATTERNS)

FRONT JACK C.B.A. LSEP3094A
OPERATION C.B.A. LSEP3096A
NETWORK C.B.A. LSEP3097A
PT-50LCX63/PT-60LCX63